



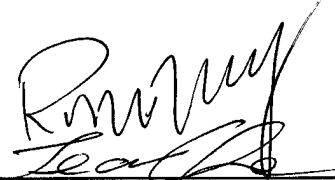

Test Report issued under the responsibility of:



TEST REPORT

IEC 60950-1: 2005 (2nd Edition) and/or EN 60950-1:2006 Information technology equipment – Safety – Part 1: General requirements

Report Reference No.:	11021109 001
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CB/CCA Testing Laboratory	TÜV Rheinland Taiwan Ltd., Taichung Laboratory
Address	No. 9, Ln. 36, Sec. 3, Minsheng Rd., Daya Township, Taichung County, 428 Taiwan
Applicant's name	Clevo Co.
Address	No. 129, Hsing-Te Road, Sun Chung City, Taipei Hsien 241 Taiwan
Manufacturer's name	Same as above
Address	Same as above
Factory's name	See page 5
Address	See page 5
Test specification:	
Standard	<input checked="" type="checkbox"/> IEC 60950-1:2005 (2nd Edition) and/or <input checked="" type="checkbox"/> EN 60950-1:2006+A11:2009
Test procedure	CB
Non-standard test method	N/A
Test Report Form No.:	IECEN60950_1C
Test Report Form(s) Originator	SGS Fimko Ltd
Master TRF	Dated 2007-06
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Test item description	NOTEBOOK COMPUTER
Trade Mark	CLEVO CO.
Manufacturer	Same as applicant
Model/Type reference	T510X, T511X (X can be 0-9 or blank)
Ratings	Input: 19Vdc, 3.42A or 18.5Vdc, 3.5A

Testing procedure and testing location:	
<input checked="" type="checkbox"/> Refer to cover page Testing location/ address..... :	Refer to cover page Refer to cover page
<input type="checkbox"/> Associated CB Laboratory: Testing location/ address..... :	
<div style="display: flex; justify-content: space-between;"> <div> Tested by (name + signature)..... : Robert Kong Approved by (+ signature)..... : Jean Chen </div> <div style="text-align: right;">   </div> </div>	
<input type="checkbox"/> Testing procedure: TMP Tested by (name + signature)..... : Approved by (+ signature)..... : Testing location/ address..... :	
<input type="checkbox"/> Testing procedure: WMT Tested by (name + signature)..... : Witnessed by (+ signature)..... : Approved by (+ signature)..... : Testing location/ address..... :	
<input type="checkbox"/> Testing procedure: SMT Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address..... :	
<input type="checkbox"/> Testing procedure: RMT Tested by (name + signature)..... : Approved by (+ signature)..... : Supervised by (+ signature)..... : Testing location/ address..... :	

Summary of testing:
Tests performed (name of test and test clause):

- All applicable tests as described in Test Case and Measurement Sections were performed.
- The maximum ambient temperature is specified as 35 °C.
- The CPU is used as follows during test.
 - Intel® Core i7 Mobile Processor 620M, speed 2.66GHz.
 - Intel® Core i5 Mobile Processor 540M, speed 2.53GHz.
 - Intel® Core i3 Mobile Processor 350M, speed 2.27GHz.
 - Intel® Celeron P4500 Processor, speed 1.86GHz.
- Highest load according to 1.2.2.1 for this equipment which its contains max. rating of the optional optical drives and the HDD, brightness and contrast for LCD panel and charged with empty battery packs. Dummy load of 2.5W in connection to represent each USB load.

Testing location:

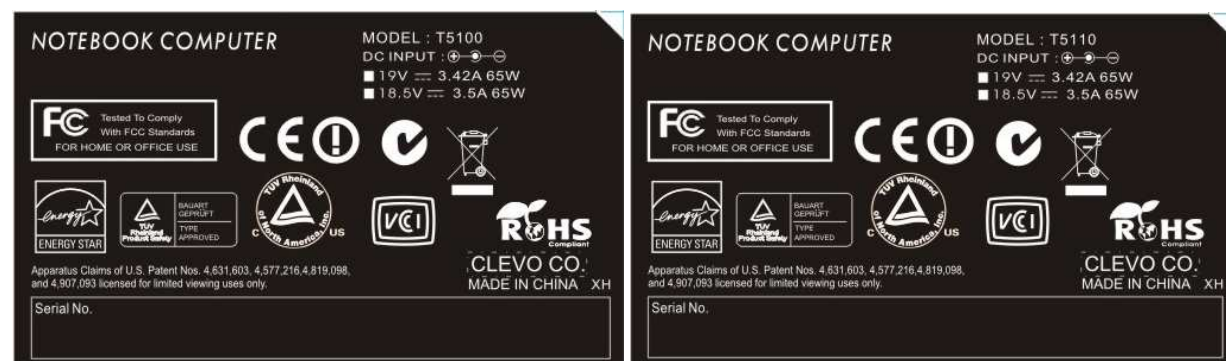
All tests as described in Test Case and Measurement Sections were performed at the laboratory described on page 2.

Summary of compliance with National Differences:

EU Group Differences, EU Special National Conditions, EU A-Deviations, AT, CA, CH, DE, FR, GB, IT, KR, NL, PL, SI, US.

Explanation of used codes: AT=Austria, AU=Australia, CA=Canada, CH=Switzerland, DE=Germany, DK=Denmark, FI=Finland, FR=France, GB=United Kingdom, IT=Italy, KR=Korea, NL=The Netherlands, NO=Norway, PL=Poland, SE=Sweden, SI=Slovenia, US=United States of America.

For National Differences see corresponding Attachment.

Copy of marking plate(s):


This label drawing is a draft of an artwork for marking plates pending approval by National Certification Bodies and it shall not be affixed to products prior to such an approval.

Test item particulars	
Equipment mobility	<input type="checkbox"/> movable <input type="checkbox"/> hand-held <input checked="" type="checkbox"/> transportable <input type="checkbox"/> stationary <input type="checkbox"/> for building-in <input type="checkbox"/> direct plug-in
Connection to the mains	<input type="checkbox"/> pluggable equipment <input type="checkbox"/> permanent connection <input type="checkbox"/> detachable power supply cord <input type="checkbox"/> non-detachable power supply cord <input checked="" type="checkbox"/> not directly connected to the mains
Operating condition	<input checked="" type="checkbox"/> continuous <input type="checkbox"/> rated operating / resting time
Access location	<input checked="" type="checkbox"/> operator accessible <input type="checkbox"/> restricted access location
Over voltage category (OVC)	<input type="checkbox"/> OVC I <input type="checkbox"/> OVC II <input type="checkbox"/> OVC III <input type="checkbox"/> OVC IV <input checked="" type="checkbox"/> other: N/A
Mains supply tolerance (%) or absolute mains supply values	Not directly connected to the mains
Tested for IT power systems	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No
IT testing, phase-phase voltage (V)	N/A
Class of equipment	<input type="checkbox"/> Class I <input type="checkbox"/> Class II <input checked="" type="checkbox"/> Class III <input type="checkbox"/> Not classified
Considered current rating (A)	N/A
Pollution degree (PD)	<input type="checkbox"/> PD 1 <input checked="" type="checkbox"/> PD 2 <input type="checkbox"/> PD 3
IP protection class	IPX0
Altitude during operation (m)	Up to 2000 m
Altitude of test laboratory (m)	Not over 2000 m
Mass of equipment (kg)	2.62 kg
Possible test case verdicts:	
- test case does not apply to the test object	N/A
- test object does meet the requirement	P (Pass)
- test object does not meet the requirement	F (Fail)
Testing	
Date of receipt of test item	May, 2010
Date(s) of performance of tests	May - June, 2010
General remarks:	
<p>The test results presented in this report relate only to the object tested. This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory. “(See Enclosure #)” refers to additional information appended to the report. “(See appended table)” refers to a table appended to the report.</p> <p>Note: This TRF includes EN Group Differences together with National Differences and Special National Conditions, if any. All Differences are located in the Appendix to the main body of this TRF.</p> <p>Throughout this report a point is used as the decimal separator.</p> <p>The manufacturer's declaration, that the samples tested represent the products from each factory, is available.</p>	

General product information:

The equipment, models T510X, T511X (X can be 0-9 or blank) are NOTEBOOK COMPUTER for general office use.

Both models are similar except for type designation.

There are some sources of CPU type provided as follows:

- Intel® Core i7 Mobile Processor 620M, speed 2.66GHz.
- Intel® Core i5 Mobile Processor 540M, speed 2.53GHz.
- Intel® Core i5 Mobile Processor 520M, speed 2.40GHz.
- Intel® Core i3 Mobile Processor 350M, speed 2.27GHz.
- Intel® Core i3 Mobile Processor 330M, speed 2.13GHz.
- Intel® Celeron P4500 Processor, speed 1.86GHz.

There are two types of backlight mode (LED or DC/AC inverter) provided, and therefore the DC/AC inverter is optional used.

The external power adaptor and battery pack are approved products which were CB-scheme evaluated according to IEC 60950-1, for detail information see appended table 1.5.1.

All Data ports of unit were complied with requirement of sub-clause 2.5.

Other comments:

This report contains all national deviation as the class III equipment itself is subject of this CB report, but CB countries for external adapter should investigate this matter while the equipment under test is submitted for national approval.

Factory(ies):

Kapok (Kunshan) Co.

No. 200, the 2nd Road, Export Processing Zone, Kunshan, Jiangsu Province 215300, P.R. China

Definition of variable(s):

Variable:	Range of variable:	Content:
X	0-9 or blank	For marketing purpose, no safety impact.

Attachments to this Test Report:

- Photo Documentation
- National Differences
- Measurement Section

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1	GENERAL		P
1.5	Components		P
1.5.1	General	See below.	P
	Comply with IEC 60950 or relevant component standard	(see appended table 1.5.1)	P
1.5.2	Evaluation and testing of components	Components certified to IEC standards and/or their harmonized standards, are used within their ratings and are checked for correct application.	P
1.5.3	Thermal controls	No thermal controls provided.	N/A
1.5.4	Transformers	No transformers used except for approved power adaptors.	N/A
1.5.5	Interconnecting cables	No interconnection cables used.	N/A
1.5.6	Capacitors bridging insulation	No such components.	N/A
1.5.7	Resistors bridging insulation	No such components.	N/A
1.5.7.1	Resistors bridging functional, basic or supplementary insulation		N/A
1.5.7.2	Resistors bridging double or reinforced insulation between a.c. mains and other circuits		N/A
1.5.7.3	Resistors bridging double or reinforced insulation between a.c. mains and antenna or coaxial cable		N/A
1.5.8	Components in equipment for IT power systems	Equipment is not directly connected to the AC mains supply.	N/A
1.5.9	Surge suppressors	Equipment is not directly connected to the AC mains supply.	N/A
1.5.9.1	General		N/A
1.5.9.2	Protection of VDRs		N/A
1.5.9.3	Bridging of functional insulation by a VDR		N/A
1.5.9.4	Bridging of basic insulation by a VDR		N/A
1.5.9.5	Bridging of supplementary, double or reinforced insulation by a VDR		N/A
1.6	Power interface		P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.6.1	AC power distribution systems	Equipment is not directly connected to the AC mains supply.	N/A
1.6.2	Input current	See summary of testing in page 3 for details. Results see appended table 1.6.2.	P
1.6.3	Voltage limit of hand-held equipment	The equipment is not hand-held equipment.	N/A
1.6.4	Neutral conductor	The equipment is not directly connected to the mains supply.	N/A

1.7	Marking and instructions		P
1.7.1	Power rating	Marking label is located on bottom side of enclosure.	P
	Rated voltage(s) or voltage range(s) (V)	See copy of marking plate (no direct connection to the mains supply).	N/A
	Symbol for nature of supply, for d.c. only	See copy of marking plate (no direct connection to the mains supply).	N/A
	Rated frequency or rated frequency range (Hz)....	No direct connection to the AC mains supply.	N/A
	Rated current (mA or A)	No direct connection to the AC mains supply.	N/A
	Manufacturer's name or trade-mark or identification mark	See copy of marking plate.	P
	Model identification or type reference	See copy of marking plate.	P
	Symbol for Class II equipment only	The equipment is Class III equipment.	N/A
	Other markings and symbols	Other markings and symbols do not give rise to misunderstanding.	P
1.7.2	Safety instructions and marking	See below.	P
1.7.2.1	General	The user's guide is provided to the user containing safety instructions.	P
1.7.2.2	Disconnect devices	No direct connection to the mains supply.	N/A
1.7.2.3	Overcurrent protective device	The equipment is Class III equipment.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.2.4	IT power distribution systems	The equipment is not directly connected to the AC mains supply.	N/A
1.7.2.5	Operator access with a tool		N/A
1.7.2.6	Ozone	The equipment does not produce ozone.	N/A
1.7.3	Short duty cycles	The equipment is designed for continuous operation.	N/A
1.7.4	Supply voltage adjustment	No voltage / frequency setting.	N/A
	Methods and means of adjustment; reference to installation instructions	See above.	N/A
1.7.5	Power outlets on the equipment	No standard power outlets provided.	N/A
1.7.6	Fuse identification (marking, special fusing characteristics, cross-reference)		N/A
1.7.7	Wiring terminals	See below.	N/A
1.7.7.1	Protective earthing and bonding terminals	No direct connection to the mains supply.	N/A
1.7.7.2	Terminals for a.c. mains supply conductors	No direct connection to the mains supply.	N/A
1.7.7.3	Terminals for d.c. mains supply conductors	No direct connection to the mains supply.	N/A
1.7.8	Controls and indicators	See below.	P
1.7.8.1	Identification, location and marking	The marking of the stand-by switch is located that indication of function clearly.	P
1.7.8.2	Colours		N/A
1.7.8.3	Symbols according to IEC 60417	Marking for stand-by type switch according 60417-1-IEC-5009 (line half inside circle) was marked on stand-by type switch button.	P
1.7.8.4	Markings using figures	No figures used.	N/A
1.7.9	Isolation of multiple power sources	Only one power source.	N/A
1.7.10	Thermostats and other regulating devices	Neither thermostats nor other regulating devices provided.	N/A
1.7.11	Durability	Compliance.	P
1.7.12	Removable parts	The required marking is not placed on removable parts.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
1.7.13	Replaceable batteries	The battery pack is exchangeable. Warning text provided in user's manual accordingly.	P
	Language(s)	English. Versions in other languages will be provided when national certificate approval.	—
1.7.14	Equipment for restricted access locations.....	The equipment is not intended to be use in restricted access locations.	N/A

2	PROTECTION FROM HAZARDS		P
2.1	Protection from electric shock and energy hazards		P
2.1.1	Protection in operator access areas	See below.	P
2.1.1.1	Access to energized parts	See below.	P
	Test by inspection	The NOTEBOOK COMPUTER is supplied from an approved power adaptor or battery pack that provides only SELV.	P
	Test with test finger (Figure 2A)	No access with test finger to any parts with only basic insulation to TNV-3.	P
	Test with test pin (Figure 2B)		N/A
	Test with test probe (Figure 2C)	The test probe cannot touch pins of connector of TNV-3 circuit through any seams within the appliance.	P
2.1.1.2	Battery compartments	TNV circuits are not accessible when replace battery pack.	N/A
2.1.1.3	Access to ELV wiring	No ELV wiring.	N/A
	Working voltage (V_{peak} or V_{rms}); minimum distance through insulation (mm)		—
2.1.1.4	Access to hazardous voltage circuit wiring		N/A
2.1.1.5	Energy hazards	No energy hazards in operator access area.	P
2.1.1.6	Manual controls	No conductive shafts of operating knobs, handles, levers and the like.	N/A
2.1.1.7	Discharge of capacitors in equipment	The equipment is Class III equipment.	N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	Measured voltage (V); time-constant (s)	See above.	—
2.1.1.8	Energy hazards – d.c. mains supply	No d.c. mains supply.	N/A
	a) Capacitor connected to the d.c. mains supply ..		N/A
	b) Internal battery connected to the d.c. mains supply		N/A
2.1.1.9	Audio amplifiers	The voltage of speaker is measured 2.11Vpeak.	P
2.1.2	Protection in service access areas		N/A
2.1.3	Protection in restricted access locations	The equipment is not limited to be used in restricted access locations.	N/A

2.2	SELV circuits <i>Supply from power adaptor or battery pack that is considered to carry SELV at below 240VA only. No higher voltages generated.</i>		P
2.2.1	General requirements	The circuits inside equipment were SELV circuits.	P
2.2.2	Voltages under normal conditions (V)	Between any conductor of the SELV circuits, 42.4 V peak or 60 V d.c. is not exceeded.	P
2.2.3	Voltages under fault conditions (V)	Single fault did not cause excessive voltage in SELV circuits. The limits of 71 V peak and 120 V d.c. were not exceeded within 200 ms. Furthermore, the SELV limits (see subclause 2.2.2) were not exceeded for longer than 200 ms.	P
2.2.4	Connection of SELV circuits to other circuits	Complied with subclauses 2.2.2 and 2.2.3.	P

2.3	TNV circuits		P
2.3.1	Limits	See below.	P
	Type of TNV circuits	The modem module is an approved component that generates only signals within the limits of SELV circuits. The telecommunication network is considered to be TNV-3 circuit.	—
2.3.2	Separation from other circuits and from accessible parts	See below.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.3.2.1	General requirements	See below.	P
2.3.2.2	Protection by basic insulation	Basic insulation between TNV and SELV provided. Requirements of 6.2.2 are applicable.	P
2.3.2.3	Protection by earthing		N/A
2.3.2.4	Protection by other constructions		N/A
2.3.3	Separation from hazardous voltages	See below.	P
	Insulation employed..... :	Both TNV separated to primary by reinforced or double insulation by the certified power adaptor.	—
2.3.4	Connection of TNV circuits to other circuits	See below.	P
	Insulation employed..... :	TNV circuits separated to primary by reinforced or double insulation by the certified power adaptor. TNV circuits only connected to SELV circuits by basic insulation.	—
2.3.5	Test for operating voltages generated externally	Basic insulation provided. No test for this clause.	N/A

2.4	Limited current circuits		P
2.4.1	General requirements	See below.	P
2.4.2	Limit values	See below.	P
	Frequency (Hz)	See appended table 2.4.2	—
	Measured current (mA)..... :	See appended table 2.4.2	—
	Measured voltage (V)	1) 1.12kV for Mitac / M660JEINT-D 2) 1.39kV for Taiwan Sumida / M660SRUINT-E	—
	Measured circuit capacitance (nF or µF)..... :	1) 100pF for Mitac / M660JEINT-D 2) 100pF for Taiwan Sumida / M660SRUINT-E	—
2.4.3	Connection of limited current circuits to other circuits	Complied.	P

2.5	Limited power sources		P
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IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
	a) Inherently limited output		N/A
	b) Impedance limited output		N/A
	c) Regulating network limited output under normal operating and single fault condition	See attachment measurement section table 2.5.	P
	d) Overcurrent protective device limited output		N/A
	Max. output voltage (V), max. output current (A), max. apparent power (VA).....:	See attachment measurement section table 2.5.	—
	Current rating of overcurrent protective device (A)		—

2.6	Provisions for earthing and bonding		N/A
2.6.1	Protective earthing		N/A
2.6.2	Functional earthing		N/A
2.6.3	Protective earthing and protective bonding conductors		N/A
2.6.3.1	General		N/A
2.6.3.2	Size of protective earthing conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
2.6.3.3	Size of protective bonding conductors		N/A
	Rated current (A), cross-sectional area (mm ²), AWG		—
	Protective current rating (A), cross-sectional area (mm ²), AWG		—
2.6.3.4	Resistance of earthing conductors and their terminations; resistance (Ω), voltage drop (V), test current (A), duration (min)		N/A
2.6.3.5	Colour of insulation		N/A
2.6.4	Terminals		N/A
2.6.4.1	General		N/A
2.6.4.2	Protective earthing and bonding terminals		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
2.6.4.3	Separation of the protective earthing conductor from protective bonding conductors		N/A
2.6.5	Integrity of protective earthing		N/A
2.6.5.1	Interconnection of equipment		N/A
2.6.5.2	Components in protective earthing conductors and protective bonding conductors		N/A

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.6.5.3	Disconnection of protective earth		N/A
2.6.5.4	Parts that can be removed by an operator		N/A
2.6.5.5	Parts removed during servicing		N/A
2.6.5.6	Corrosion resistance		N/A
2.6.5.7	Screws for protective bonding		N/A
2.6.5.8	Reliance on telecommunication network or cable distribution system		N/A

2.7	Overcurrent and earth fault protection in primary circuits <i>With SELV supply from power adaptor or battery pack, no primary circuits inside.</i>		N/A
2.7.1	Basic requirements		N/A
	Instructions when protection relies on building installation		N/A
2.7.2	Faults not simulated in 5.3.7		N/A
2.7.3	Short-circuit backup protection		N/A
2.7.4	Number and location of protective devices		N/A
2.7.5	Protection by several devices		N/A
2.7.6	Warning to service personnel		N/A

2.8	Safety interlocks		N/A
2.8.1	General principles		N/A
2.8.2	Protection requirements		N/A
2.8.3	Inadvertent reactivation		N/A
2.8.4	Fail-safe operation		N/A
2.8.5	Moving parts		N/A
2.8.6	Overriding		N/A
2.8.7	Switches and relays		N/A
2.8.7.1	Contact gaps (mm)		N/A
2.8.7.2	Overload test		N/A
2.8.7.3	Endurance test		N/A
2.8.7.4	Electric strength test		N/A
2.8.8	Mechanical actuators		N/A

2.9	Electrical insulation <i>The unit is supplied from approved adaptor or battery pack that provides SELV. Only SELV and approved modem module with TNV inside the unit.</i>		P
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IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.9.1	Properties of insulating materials	Natural rubber, asbestos or hygroscopic materials are not used.	P
2.9.2	Humidity conditioning	See below.	P
	Relative humidity (%), temperature (°C):	48 h, 95%, 25°C	—
2.9.3	Grade of insulation	The adequate levels of safety insulation is provided and maintained to comply with the requirements of this standard.	P
2.9.4	Separation from hazardous voltages		N/A
	Method(s) used:		—

2.10	Clearances, creepage distances and distances through insulation <i>The unit is supplied from approved adaptor or battery pack that provides SELV. Only SELV and approved modem module with TNV inside the unit.</i>		P
2.10.1	General	See below.	P
2.10.1.1	Frequency:	The frequency does not exceeding 30kHz.	P
2.10.1.2	Pollution degrees:	2	P
2.10.1.3	Reduced values for functional insulation	See 5.3.4.	P
2.10.1.4	Intervening unconnected conductive parts		N/A
2.10.1.5	Insulation with varying dimensions		N/A
2.10.1.6	Special separation requirements		N/A
2.10.1.7	Insulation in circuits generating starting pulses		N/A
2.10.2	Determination of working voltage	See below.	P
2.10.2.1	General	Considered.	P
2.10.2.2	RMS working voltage		P
2.10.2.3	Peak working voltage		P
2.10.3	Clearances	See below.	P
2.10.3.1	General	Annex F is considered.	P
2.10.3.2	Mains transient voltages		N/A
	a) AC mains supply:		N/A
	b) Earthed d.c. mains supplies:		N/A
	c) Unearthed d.c. mains supplies:		N/A
	d) Battery operation:		N/A
2.10.3.3	Clearances in primary circuits		N/A
2.10.3.4	Clearances in secondary circuits	See clauses 2.10.3 and 5.3.4.	P

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
2.10.3.5	Clearances in circuits having starting pulses		N/A
2.10.3.6	Transients from a.c. mains supply		N/A
2.10.3.7	Transients from d.c. mains supply		N/A
2.10.3.8	Transients from telecommunication networks and cable distribution systems	1500Vpk	P
2.10.3.9	Measurement of transient voltage levels		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network ...		N/A
2.10.4	Creepage distances	See below.	P
2.10.4.1	General	Considered.	P
2.10.4.2	Material group and comparative tracking index	Material group IIIb assumed.	P
	CTI tests	Min. 100	—
2.10.4.3	Minimum creepage distances	See attachment measurement section table 2.10.3 and 2.10.4.	P
2.10.5	Solid insulation		N/A
2.10.5.1	General		N/A
2.10.5.2	Distances through insulation		N/A
2.10.5.3	Insulating compound as solid insulation		N/A
2.10.5.4	Semiconductor devices		N/A
2.10.5.5	Cemented joints		N/A
2.10.5.6	Thin sheet material – General		N/A
2.10.5.7	Separable thin sheet material		N/A
	Number of layers (pcs)		—
2.10.5.8	Non-separable thin sheet material		N/A
2.10.5.9	Thin sheet material – standard test procedure		N/A
	Electric strength test		—
2.10.5.10	Thin sheet material – alternative test procedure		N/A
	Electric strength test		—
2.10.5.11	Insulation in wound components		N/A
2.10.5.12	Wire in wound components		N/A
	Working voltage		N/A
	a) Basic insulation not under stress		N/A
	b) Basic, supplementary, reinforced insulation		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
	c) Compliance with Annex U		N/A
	Two wires in contact inside wound component; angle between 45° and 90°		N/A
2.10.5.13	Wire with solvent-based enamel in wound components		N/A
	Electric strength test		—
	Routine test		N/A
2.10.5.14	Additional insulation in wound components		N/A
	Working voltage		N/A
	- Basic insulation not under stress		N/A
	- Supplementary, reinforced insulation		N/A
2.10.6	Construction of printed boards		N/A
2.10.6.1	Uncoated printed boards		N/A
2.10.6.2	Coated printed boards		N/A
2.10.6.3	Insulation between conductors on the same inner surface of a printed board		N/A
2.10.6.4	Insulation between conductors on different layers of a printed board		N/A
	Distance through insulation		N/A
	Number of insulation layers (pcs)		N/A
2.10.7	Component external terminations		N/A
2.10.8	Tests on coated printed boards and coated components		N/A
2.10.8.1	Sample preparation and preliminary inspection		N/A
2.10.8.2	Thermal conditioning		N/A
2.10.8.3	Electric strength test		N/A
2.10.8.4	Abrasion resistance test		N/A
2.10.9	Thermal cycling		N/A
2.10.10	Test for Pollution Degree 1 environment and insulating compound		N/A
2.10.11	Tests for semiconductor devices and cemented joints		N/A
2.10.12	Enclosed and sealed parts		N/A
3	WIRING, CONNECTIONS AND SUPPLY		P
3.1	General		P

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Clause	Requirement + Test	Result - Remark	Verdict
3.1.1	Current rating and overcurrent protection	All internal wires are UL recognized wiring which is PVC insulated, rated VW-1, min. 80°C. Internal wiring gauge is suitable for current intended to be carried.	P
3.1.2	Protection against mechanical damage	Wires do not touch sharp edges and heatsinks, which could damage the insulation and cause hazards.	P
3.1.3	Securing of internal wiring	Internal wires are secured by soldering and quick connector so that a loosening of the terminal connection is unlikely.	P
3.1.4	Insulation of conductors	The insulation of the individual conductors is suitable for the application and the working voltage. For the insulation material see 3.1.1.	P
3.1.5	Beads and ceramic insulators	Not used.	N/A
3.1.6	Screws for electrical contact pressure	No such screws.	N/A
3.1.7	Insulating materials in electrical connections	All current carrying connections are metal to metal.	N/A
3.1.8	Self-tapping and spaced thread screws	No self-tapping or spaced thread screws used.	N/A
3.1.9	Termination of conductors	All conductors are reliably secured.	P
	10 N pull test	Applied and passed.	P
3.1.10	Sleeving on wiring	No sleeving used as supplementary insulation.	N/A

3.2	Connection to a mains supply		N/A
3.2.1	Means of connection		N/A
3.2.1.1	Connection to an a.c. mains supply		N/A
3.2.1.2	Connection to a d.c. mains supply		N/A
3.2.2	Multiple supply connections		N/A
3.2.3	Permanently connected equipment		N/A
	Number of conductors, diameter of cable and conduits (mm) :		—
3.2.4	Appliance inlets		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.2.5	Power supply cords		N/A
3.2.5.1	AC power supply cords		N/A
	Type		—
	Rated current (A), cross-sectional area (mm ²), AWG		—
3.2.5.2	DC power supply cords		N/A
3.2.6	Cord anchorages and strain relief		N/A
	Mass of equipment (kg), pull (N)		—
	Longitudinal displacement (mm)		—
3.2.7	Protection against mechanical damage		N/A
3.2.8	Cord guards		N/A
	Diameter or minor dimension D (mm); test mass (g)		—
	Radius of curvature of cord (mm)		—
3.2.9	Supply wiring space		N/A

3.3	Wiring terminals for connection of external conductors		N/A
3.3.1	Wiring terminals	Class III equipment.	N/A
3.3.2	Connection of non-detachable power supply cords		N/A
3.3.3	Screw terminals		N/A
3.3.4	Conductor sizes to be connected		N/A
	Rated current (A), cord/cable type, cross-sectional area (mm ²)		—
3.3.5	Wiring terminal sizes		N/A
	Rated current (A), type, nominal thread diameter (mm)		—
3.3.6	Wiring terminal design		N/A
3.3.7	Grouping of wiring terminals		N/A
3.3.8	Stranded wire		N/A

3.4	Disconnection from the mains supply		N/A
3.4.1	General requirement	No direct connection to the mains supply.	N/A
3.4.2	Disconnect devices		N/A
3.4.3	Permanently connected equipment		N/A
3.4.4	Parts which remain energized		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
3.4.5	Switches in flexible cords		N/A
3.4.6	Number of poles - single-phase and d.c. equipment		N/A
3.4.7	Number of poles - three-phase equipment		N/A
3.4.8	Switches as disconnect devices		N/A
3.4.9	Plugs as disconnect devices		N/A
3.4.10	Interconnected equipment		N/A
3.4.11	Multiple power sources		N/A

3.5	Interconnection of equipment		P
3.5.1	General requirements	See below.	P
3.5.2	Types of interconnection circuits	Interconnection circuits of SELV through the connectors.	P
3.5.3	ELV circuits as interconnection circuits		N/A
3.5.4	Data ports for additional equipment	The data ports are comply with sub-clause 2.5.	P

4	PHYSICAL REQUIREMENTS		P
4.1	Stability		N/A
	Angle of 10°	Less than 7kg.	N/A
	Test force (N)		N/A

4.2	Mechanical strength		P
4.2.1	General	See below. After tests, unit comply with 2.1.1, 2.10 and 4.4.1.	P
4.2.2	Steady force test, 10 N	10 N applied to components other than parts serving as an enclosure.	P
4.2.3	Steady force test, 30 N	No inner enclosure.	N/A
4.2.4	Steady force test, 250 N	250 N applied to outer enclosure of Notebook Computer. No energy or other hazards.	P
4.2.5	Impact test	Not applied for transportable equipment.	N/A
	Fall test		N/A
	Swing test		N/A
4.2.6	Drop test; height (mm)	No hazards.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.2.7	Stress relief test	After 7 h for Notebook Computer (for all sources) and battery pack enclosure at 73°C cooling down to room temperature, no shrinkage, distortion or loosening of enclosure of battery pack and Notebook Computer was noticeable on this equipment.	P
4.2.8	Cathode ray tubes	No CRT.	N/A
	Picture tube separately certified		N/A
4.2.9	High pressure lamps	No high pressure lamp.	N/A
4.2.10	Wall or ceiling mounted equipment; force (N)	Not such equipment.	N/A

4.3	Design and construction		P
4.3.1	Edges and corners	All edges or corners accessible to operator are rounded and smoothed.	P
4.3.2	Handles and manual controls; force (N).....	None, which could cause hazards.	N/A
4.3.3	Adjustable controls	No safety relevant adjustable controls provided.	N/A
4.3.4	Securing of parts	Electrical and mechanical connections can be expected to withstand usual mechanical stress. For the protection solder pins are used.	P
4.3.5	Connection by plugs and sockets	Mismatch of connectors were prevented by incompatible form or location.	P
4.3.6	Direct plug-in equipment		N/A
	Torque		—
	Compliance with the relevant mains plug standard		N/A
4.3.7	Heating elements in earthed equipment		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.8	Batteries	<ol style="list-style-type: none"> The RTC battery is protected from reverse charging by D28. All battery packs are approved components and no reverse polarity installation is possible due to design of pack. The normal charging voltage and current for main battery pack are compatible with output characteristics respectively. The discharge current for battery pack is compatible with output characteristics of all sources of battery pack. Results see appended table 4.3.8 and 5.3.	P
	- Overcharging of a rechargeable battery	Same as above.	P
	- Unintentional charging of a non-rechargeable battery	Same as above.	P
	- Reverse charging of a rechargeable battery	Same as above.	P
	- Excessive discharging rate for any battery	Same as above.	P
4.3.9	Oil and grease		N/A
4.3.10	Dust, powders, liquids and gases		N/A
4.3.11	Containers for liquids or gases		N/A
4.3.12	Flammable liquids		N/A
	Quantity of liquid (l)		N/A
	Flash point (°C)		N/A
4.3.13	Radiation	See below.	P
4.3.13.1	General	See below.	P
4.3.13.2	Ionizing radiation		N/A
	Measured radiation (pA/kg)		—
	Measured high-voltage (kV)		—
	Measured focus voltage (kV)		—
	CRT markings		—
4.3.13.3	Effect of ultraviolet (UV) radiation on materials		N/A
	Part, property, retention after test, flammability classification		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
4.3.13.4	Human exposure to ultraviolet (UV) radiation		N/A
4.3.13.5	Laser (including LEDs)	LED used as indicating lights. All optional optical drives were evaluated according to relevant standard for laser product. Therefore, complied with this clause without further test.	P
	Laser class	Laser Class 1 for all optional optical drives.	—
4.3.13.6	Other types		N/A

4.4	Protection against hazardous moving parts		P
4.4.1	General	DC fan is protected by enclosure. Other motors are used in the certified HDD and all optional optical drives.	P
4.4.2	Protection in operator access areas	Moving parts are not accessible by test finger.	P
4.4.3	Protection in restricted access locations	Not limited for restricted access locations.	N/A
4.4.4	Protection in service access areas		N/A

4.5	Thermal requirements		P
4.5.1	General	No exceeding temperature.	P
4.5.2	Temperature tests	See appended table 4.5.	P
	Normal load condition per Annex L	See Annex L.	—
4.5.3	Temperature limits for materials	See appended table 4.5.	P
4.5.4	Touch temperature limits	See appended table 4.5.	P
4.5.5	Resistance to abnormal heat		N/A

4.6	Openings in enclosures		P
4.6.1	Top and side openings	Transportable equipment	N/A
	Dimensions (mm)		—
4.6.2	Bottoms of fire enclosures	Transportable equipment	N/A
	Construction of the bottom, dimensions (mm)		—
4.6.3	Doors or covers in fire enclosures		N/A
4.6.4	Openings in transportable equipment	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
4.6.4.1	Constructional design measures	See below.	P
	Dimensions (mm) :	See attachment measurement section table 4.6.1, 4.6.2.	—
4.6.4.2	Evaluation measures for larger openings		N/A
4.6.4.3	Use of metallized parts		N/A
4.6.5	Adhesives for constructional purposes		N/A
	Conditioning temperature (°C), time (weeks) :		—

4.7	Resistance to fire		P
4.7.1	Reducing the risk of ignition and spread of flame	See below.	P
	Method 1, selection and application of components wiring and materials	Materials with suitable flammability classes are used (see appended table 4.7).	P
	Method 2, application of all of simulated fault condition tests		N/A
4.7.2	Conditions for a fire enclosure	See below.	P
4.7.2.1	Parts requiring a fire enclosure	Having employed the following parts: <ul style="list-style-type: none"> components in secondary circuits; insulated wiring The fire enclosure is required.	P
4.7.2.2	Parts not requiring a fire enclosure		N/A
4.7.3	Materials		P
4.7.3.1	General	See appended table 1.5.1 for PCB material.	P
4.7.3.2	Materials for fire enclosures	See appended table 1.5.1 for enclosure material.	P
4.7.3.3	Materials for components and other parts outside fire enclosures		N/A
4.7.3.4	Materials for components and other parts inside fire enclosures	Internal components except small parts are flammability class V-2, HF-2 or better.	P
4.7.3.5	Materials for air filter assemblies		N/A
4.7.3.6	Materials used in high-voltage components		N/A

5	ELECTRICAL REQUIREMENTS AND SIMULATED ABNORMAL CONDITIONS		P
5.1	Touch current and protective conductor current		P
5.1.1	General	See below.	P

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Clause	Requirement + Test	Result - Remark	Verdict
5.1.2	Configuration of equipment under test (EUT)		N/A
5.1.2.1	Single connection to an a.c. mains supply		N/A
5.1.2.2	Redundant multiple connections to an a.c. mains supply		N/A
5.1.2.3	Simultaneous multiple connections to an a.c. mains supply		N/A
5.1.3	Test circuit	Using figure 5A.	P
5.1.4	Application of measuring instrument		N/A
5.1.5	Test procedure		N/A
5.1.6	Test measurements	See below.	P
	Supply voltage (V)	See clause 5.1.8.1.	—
	Measured touch current (mA)	See clause 5.1.8.1.	—
	Max. allowed touch current (mA)	See clause 5.1.8.1.	—
	Measured protective conductor current (mA)		—
	Max. allowed protective conductor current (mA)...		—
5.1.7	Equipment with touch current exceeding 3,5 mA		N/A
5.1.7.1	General		N/A
5.1.7.2	Simultaneous multiple connections to the supply		N/A
5.1.8	Touch currents to telecommunication networks and cable distribution systems and from telecommunication networks	See below.	P
5.1.8.1	Limitation of the touch current to a telecommunication network or to a cable distribution system	See below.	P
	Supply voltage (V)	264Vac for power adaptor.	—
	Measured touch current (mA)	See attachment measurement section table 5.1.6.	—
	Max. allowed touch current (mA)	0.25	—
5.1.8.2	Summation of touch currents from telecommunication networks		N/A
	a) EUT with earthed telecommunication ports		N/A
	b) EUT whose telecommunication ports have no reference to protective earth		N/A
5.2	Electric strength		P
5.2.1	General	Refer to clause 6.2.2.2.	P
5.2.2	Test procedure	Refer to clause 6.2.2.2.	P

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Clause	Requirement + Test	Result - Remark	Verdict

5.3	Abnormal operating and fault conditions		P
5.3.1	Protection against overload and abnormal operation	See below.	P
5.3.2	Motors	Certified DC fan used and other motors are used in the certified HDD and all optional optical drives. See appended table 1.5.1 for details.	P
5.3.3	Transformers		N/A
5.3.4	Functional insulation	Method c). Results see appended table 5.3.	P
5.3.5	Electromechanical components	No electromechanical component.	N/A
5.3.6	Audio amplifiers in ITE	See 2.1.1.9.	P
5.3.7	Simulation of faults	See appended table 5.3.	P
5.3.8	Unattended equipment	None of the listed components was provided.	N/A
5.3.9	Compliance criteria for abnormal operating and fault conditions	See below.	P
5.3.9.1	During the tests	No fire occurred, no molten metal emitted and no deformation of enclosure.	P
5.3.9.2	After the tests		P

6	CONNECTION TO TELECOMMUNICATION NETWORKS		P
6.1	Protection of telecommunication network service persons, and users of other equipment connected to the network, from hazards in the equipment		P
6.1.1	Protection from hazardous voltages		P
6.1.2	Separation of the telecommunication network from earth		P
6.1.2.1	Requirements	There is a sufficient insulation provided between TNV-3 circuit and earth.	P
	Supply voltage (V)	There is no breakdown between TNV and earthing of power adaptor after applied 1500Vac according to 5.2.2.	—
	Current in the test circuit (mA)		—
6.1.2.2	Exclusions		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.2	Protection of equipment users from overvoltages on telecommunication networks		P
6.2.1	Separation requirements	Adequate electrical separation between TNV-3 to: <ul style="list-style-type: none"> • Keyboard and external enclosure • SELV output ports 	P
6.2.2	Electric strength test procedure	See below.	P
6.2.2.1	Impulse test		N/A
6.2.2.2	Steady-state test	No isolation breakdown. See appended table 5.2.	P
6.2.2.3	Compliance criteria	Complied.	P
6.3	Protection of the telecommunication wiring system from overheating		N/A
	Max. output current (A)		—
	Current limiting method		—

7	CONNECTION TO CABLE DISTRIBUTION SYSTEMS		N/A
7.1	General		N/A
7.2	Protection of cable distribution system service persons, and users of other equipment connected to the system, from hazardous voltages in the equipment		N/A
7.3	Protection of equipment users from overvoltages on the cable distribution system		N/A
7.4	Insulation between primary circuits and cable distribution systems		N/A
7.4.1	General		N/A
7.4.2	Voltage surge test		N/A
7.4.3	Impulse test		N/A

A	ANNEX A, TESTS FOR RESISTANCE TO HEAT AND FIRE		P
A.1	Flammability test for fire enclosures of movable equipment having a total mass exceeding 18 kg, and of stationary equipment (see 4.7.3.2)		N/A
A.1.1	Samples		—
	Wall thickness (mm)		—
A.1.2	Conditioning of samples; temperature (°C)		N/A
A.1.3	Mounting of samples		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
A.1.4	Test flame (see IEC 60695-11-3)		N/A
	Flame A, B, C or D		—
A.1.5	Test procedure		N/A
A.1.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2	Flammability test for fire enclosures of movable equipment having a total mass not exceeding 18 kg, and for material and components located inside fire enclosures (see 4.7.3.2 and 4.7.3.4)		P
A.2.1	Samples, material		—
	Wall thickness (mm)		—
A.2.2	Conditioning of samples; temperature (°C)		N/A
A.2.3	Mounting of samples		N/A
A.2.4	Test flame (see IEC 60695-11-4)		N/A
	Flame A, B or C		—
A.2.5	Test procedure		N/A
A.2.6	Compliance criteria		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.2.7	Alternative test acc. to IEC 60695-11-5, cl. 5 and 9		N/A
	Sample 1 burning time (s)		—
	Sample 2 burning time (s)		—
	Sample 3 burning time (s)		—
A.3	Hot flaming oil test (see 4.6.2)		N/A
A.3.1	Mounting of samples		N/A
A.3.2	Test procedure		N/A
A.3.3	Compliance criterion		N/A
B	ANNEX B, MOTOR TESTS UNDER ABNORMAL CONDITIONS (see 4.7.2.2 and 5.3.2)		N/A
B.1	General requirements	Approved DC fan used.	N/A
	Position		—
	Manufacturer		—

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Clause	Requirement + Test	Result - Remark	Verdict
	Type		—
	Rated values		—
B.2	Test conditions		N/A
B.3	Maximum temperatures		N/A
B.4	Running overload test		N/A
B.5	Locked-rotor overload test		N/A
	Test duration (days)		—
	Electric strength test: test voltage (V)		—
B.6	Running overload test for d.c. motors in secondary circuits		N/A
B.6.1	General		N/A
B.6.2	Test procedure		N/A
B.6.3	Alternative test procedure		N/A
B.6.4	Electric strength test; test voltage (V)		N/A
B.7	Locked-rotor overload test for d.c. motors in secondary circuits		N/A
B.7.1	General		N/A
B.7.2	Test procedure		N/A
B.7.3	Alternative test procedure		N/A
B.7.4	Electric strength test; test voltage (V)		N/A
B.8	Test for motors with capacitors		N/A
B.9	Test for three-phase motors		N/A
B.10	Test for series motors		N/A
	Operating voltage (V)		—

C	ANNEX C, TRANSFORMERS (see 1.5.4 and 5.3.3)		N/A
	Position		—
	Manufacturer		—
	Type		—
	Rated values		—
	Method of protection		—
C.1	Overload test		N/A
C.2	Insulation		N/A
	Protection from displacement of windings		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
D	ANNEX D, MEASURING INSTRUMENTS FOR TOUCH-CURRENT TESTS (see 5.1.4)		P
D.1	Measuring instrument	Complied.	P
D.2	Alternative measuring instrument		N/A
E	ANNEX E, TEMPERATURE RISE OF A WINDING (see 1.4.13)		N/A
F	ANNEX F, MEASUREMENT OF CLEARANCES AND CREEPAGE DISTANCES (see 2.10 and Annex G)		P
G	ANNEX G, ALTERNATIVE METHOD FOR DETERMINING MINIMUM CLEARANCES		N/A
G.1	Clearances		N/A
G.1.1	General		N/A
G.1.2	Summary of the procedure for determining minimum clearances		N/A
G.2	Determination of mains transient voltage (V)		N/A
G.2.1	AC mains supply		N/A
G.2.2	Earthed d.c. mains supplies		N/A
G.2.3	Unearthed d.c. mains supplies		N/A
G.2.4	Battery operation		N/A
G.3	Determination of telecommunication network transient voltage (V)		N/A
G.4	Determination of required withstand voltage (V)		N/A
G.4.1	Mains transients and internal repetitive peaks		N/A
G.4.2	Transients from telecommunication networks		N/A
G.4.3	Combination of transients		N/A
G.4.4	Transients from cable distribution systems		N/A
G.5	Measurement of transient voltages (V)		N/A
	a) Transients from a mains supply		N/A
	For an a.c. mains supply		N/A
	For a d.c. mains supply		N/A
	b) Transients from a telecommunication network		N/A
G.6	Determination of minimum clearances		N/A
H	ANNEX H, IONIZING RADIATION (see 4.3.13)		N/A

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Clause	Requirement + Test	Result - Remark	Verdict

J	ANNEX J, TABLE OF ELECTROCHEMICAL POTENTIALS (see 2.6.5.6)		N/A
	Metal(s) used		—

K	ANNEX K, THERMAL CONTROLS (see 1.5.3 and 5.3.8)		N/A
K.1	Making and breaking capacity		N/A
K.2	Thermostat reliability; operating voltage (V)		N/A
K.3	Thermostat endurance test; operating voltage (V) :		N/A
K.4	Temperature limiter endurance; operating voltage (V)		N/A
K.5	Thermal cut-out reliability		N/A
K.6	Stability of operation		N/A

L	ANNEX L, NORMAL LOAD CONDITIONS FOR SOME TYPES OF ELECTRICAL BUSINESS EQUIPMENT (see 1.2.2.1 and 4.5.2)		P
L.1	Typewriters		N/A
L.2	Adding machines and cash registers		N/A
L.3	Erasers		N/A
L.4	Pencil sharpeners		N/A
L.5	Duplicators and copy machines		N/A
L.6	Motor-operated files		N/A
L.7	Other business equipment	See summary of testing.	P

M	ANNEX M, CRITERIA FOR TELEPHONE RINGING SIGNALS (see 2.3.1)		N/A
M.1	Introduction		N/A
M.2	Method A		N/A
M.3	Method B		N/A
M.3.1	Ringing signal		N/A
M.3.1.1	Frequency (Hz)		—
M.3.1.2	Voltage (V)		—
M.3.1.3	Cadence; time (s), voltage (V)		—
M.3.1.4	Single fault current (mA)		—
M.3.2	Tripping device and monitoring voltage		N/A
M.3.2.1	Conditions for use of a tripping device or a monitoring voltage		N/A
M.3.2.2	Tripping device		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
M.3.2.3	Monitoring voltage (V) :		N/A
N	ANNEX N, IMPULSE TEST GENERATORS (see 1.5.7.2, 1.5.7.3, 2.10.3.9, 6.2.2.1, 7.3.2, 7.4.3 and Clause G.5)		N/A
N.1	ITU-T impulse test generators		N/A
N.2	IEC 60065 impulse test generator		N/A
P	ANNEX P, NORMATIVE REFERENCES		—
Q	ANNEX Q, Voltage dependent resistors (VDRs) (see 1.5.9.1)		N/A
	a) Preferred climatic categories :		N/A
	b) Maximum continuous voltage :		N/A
	c) Pulse current :		N/A
R	Annex R, EXAMPLES OF REQUIREMENTS FOR QUALITY CONTROL PROGRAMMES		N/A
R.1	Minimum separation distances for unpopulated coated printed boards (see 2.10.6.2)		N/A
R.2	Reduced clearances (see 2.10.3)		N/A
S	ANNEX S, PROCEDURE FOR IMPULSE TESTING (see 6.2.2.3)		N/A
S.1	Test equipment		N/A
S.2	Test procedure		N/A
S.3	Examples of waveforms during impulse testing		N/A
T	ANNEX T, GUIDANCE ON PROTECTION AGAINST INGRESS OF WATER (see 1.1.2)		N/A
			—
U	ANNEX U, INSULATED WINDING WIRES FOR USE WITHOUT INTERLEAVED INSULATION (see 2.10.5.4)		N/A
			—
V	ANNEX V, AC POWER DISTRIBUTION SYSTEMS (see 1.6.1)		N/A
V.1	Introduction		N/A
V.2	TN power distribution systems		N/A

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V.3	TT power distribution systems		N/A
V.4	IT power distribution systems		N/A
W	ANNEX W, SUMMATION OF TOUCH CURRENTS		N/A
W.1	Touch current from electronic circuits		N/A
W.1.1	Floating circuits		N/A
W.1.2	Earthed circuits		N/A
W.2	Interconnection of several equipments		N/A
W.2.1	Isolation		N/A
W.2.2	Common return, isolated from earth		N/A
W.2.3	Common return, connected to protective earth		N/A
X	ANNEX X, MAXIMUM HEATING EFFECT IN TRANSFORMER TESTS (see clause C.1)		N/A
X.1	Determination of maximum input current		N/A
X.2	Overload test procedure		N/A
Y	ANNEX Y, ULTRAVIOLET LIGHT CONDITIONING TEST (see 4.3.13.3)		N/A
Y.1	Test apparatus		N/A
Y.2	Mounting of test samples		N/A
Y.3	Carbon-arc light-exposure apparatus		N/A
Y.4	Xenon-arc light exposure apparatus		N/A
Z	ANNEX Z, OVERVOLTAGE CATEGORIES (see 2.10.3.2 and Clause G.2)		P
AA	ANNEX AA, MANDREL TEST (see 2.10.5.8)		N/A
BB	ANNEX BB, CHANGES IN THE SECOND EDITION		—

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Clause	Requirement + Test				Result - Remark	Verdict																																																																								
EN 60950-1:2006 – CENELEC COMMON MODIFICATIONS																																																																														
Contents	Add the following annexes: Annex ZA (normative) Normative references to international publications with their corresponding European publications Annex ZB (normative) Special national conditions Annex ZC (informative) A-deviations					P																																																																								
General	Delete all the “country” notes in the reference document according to the following list: <table><tr><td>1.4.8</td><td>Note 2</td><td>1.5.1</td><td>Note 2 & 3</td><td>1.5.7.1</td><td>Note</td></tr><tr><td>1.5.8</td><td>Note 2</td><td>1.5.9.4</td><td>Note</td><td>1.7.2.1</td><td>Note 4, 5 & 6</td></tr><tr><td>2.2.3</td><td>Note</td><td>2.2.4</td><td>Note</td><td>2.3.2</td><td>Note</td></tr><tr><td>2.3.2.1</td><td>Note 2</td><td>2.3.4</td><td>Note 2</td><td>2.6.3.3</td><td>Note 2 & 3</td></tr><tr><td>2.7.1</td><td>Note</td><td>2.10.3.2</td><td>Note 2</td><td>2.10.5.13</td><td>Note 3</td></tr><tr><td>3.2.1.1</td><td>Note</td><td>3.2.4</td><td>Note 3.</td><td>2.5.1</td><td>Note 2</td></tr><tr><td>4.3.6</td><td>Note 1 & 2</td><td>4.7</td><td>Note 4</td><td>4.7.2.2</td><td>Note</td></tr><tr><td>4.7.3.1</td><td>Note 2</td><td>5.1.7.1</td><td>Note 3 & 4</td><td>5.3.7</td><td>Note 1</td></tr><tr><td>6</td><td>Note 2 & 5</td><td>6.1.2.1</td><td>Note 2</td><td>6.1.2.2</td><td>Note</td></tr><tr><td>6.2.2</td><td>Note 6.</td><td>2.2.1</td><td>Note 2</td><td>6.2.2.2</td><td>Note</td></tr><tr><td>7.1</td><td>Note 3</td><td>7.2</td><td>Note</td><td>7.3</td><td>Note 1 & 2</td></tr><tr><td>G.2.1</td><td>Note 2</td><td>Annex H</td><td>Note 2</td><td></td><td></td></tr></table>					1.4.8	Note 2	1.5.1	Note 2 & 3	1.5.7.1	Note	1.5.8	Note 2	1.5.9.4	Note	1.7.2.1	Note 4, 5 & 6	2.2.3	Note	2.2.4	Note	2.3.2	Note	2.3.2.1	Note 2	2.3.4	Note 2	2.6.3.3	Note 2 & 3	2.7.1	Note	2.10.3.2	Note 2	2.10.5.13	Note 3	3.2.1.1	Note	3.2.4	Note 3.	2.5.1	Note 2	4.3.6	Note 1 & 2	4.7	Note 4	4.7.2.2	Note	4.7.3.1	Note 2	5.1.7.1	Note 3 & 4	5.3.7	Note 1	6	Note 2 & 5	6.1.2.1	Note 2	6.1.2.2	Note	6.2.2	Note 6.	2.2.1	Note 2	6.2.2.2	Note	7.1	Note 3	7.2	Note	7.3	Note 1 & 2	G.2.1	Note 2	Annex H	Note 2			P
1.4.8	Note 2	1.5.1	Note 2 & 3	1.5.7.1	Note																																																																									
1.5.8	Note 2	1.5.9.4	Note	1.7.2.1	Note 4, 5 & 6																																																																									
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4.7.3.1	Note 2	5.1.7.1	Note 3 & 4	5.3.7	Note 1																																																																									
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G.2.1	Note 2	Annex H	Note 2																																																																											
1.3.Z1	Add the following subclause: 1.3.Z1 Exposure to excessive sound pressure The apparatus shall be so designed and constructed as to present no danger when used for its intended purpose, either in normal operating conditions or under fault conditions, particularly providing protection against exposure to excessive sound pressures from headphones or earphones. NOTE Z1 A new method of measurement is described in EN 50332-1, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 1: General method for “one package equipment”, and in EN 50332-2, Sound system equipment: Headphones and earphones associated with portable audio equipment - Maximum sound pressure level measurement methodology and limit considerations - Part 2: Guidelines to associate sets with headphones coming from different manufacturers.					N/A																																																																								
1.5.1	Add the following NOTE: NOTE Z1 The use of certain substances in electrical and electronic equipment is restricted within the EU: see Directive 2002/95/EC					N/A																																																																								
1.7.2.1	Add the following NOTE: NOTE Z1 In addition, the instructions shall include, as far as applicable, a warning that excessive sound pressure from earphones and headphones can cause hearing loss					N/A																																																																								

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Clause	Requirement + Test	Result - Remark	Verdict												
2.7.1	<p>Replace the subclause as follows:</p> <p>Basic requirements</p> <p>To protect against excessive current, short-circuits and earth faults in PRIMARY CIRCUITS, protective devices shall be included either as integral parts of the equipment or as parts of the building installation, subject to the following, a), b) and c):</p> <p>a) except as detailed in b) and c), protective devices necessary to comply with the requirements of 5.3 shall be included as parts of the equipment;</p> <p>b) for components in series with the mains input to the equipment such as the supply cord, appliance coupler, r.f.i. filter and switch, short-circuit and earth fault protection may be provided by protective devices in the building installation;</p> <p>c) it is permitted for PLUGGABLE EQUIPMENT TYPE B or PERMANENTLY CONNECTED EQUIPMENT, to rely on dedicated overcurrent and short-circuit protection in the building installation, provided that the means of protection, e.g. fuses or circuit breakers, is fully specified in the installation instructions.</p> <p>If reliance is placed on protection in the building installation, the installation instructions shall so state, except that for PLUGGABLE EQUIPMENT TYPE A the building installation shall be regarded as providing protection in accordance with the rating of the wall socket outlet.</p>		N/A												
2.7.2	This subclause has been declared 'void'.		N/A												
3.2.3	Delete the NOTE in Table 3A, and delete also in this table the conduit sizes in parentheses.		N/A												
3.2.5.1	<p>Replace "60245 IEC 53" by "H05 RR-F";</p> <p>"60227 IEC 52" by "H03 VV-F or H03 VVH2-F";</p> <p>"60227 IEC 53" by "H05 VV-F or H05 VVH2-F2".</p> <p>In Table 3B, replace the first four lines by the following:</p> <table><tr><td> Up to and including 6</td><td></td><td>0,75 ^{a)}</td><td> </td></tr><tr><td> Over 6 up to and including 10</td><td>(0,75) ^{b)}</td><td>1,0</td><td> </td></tr><tr><td> Over 10 up to and including 16</td><td>(1,0) ^{c)}</td><td>1,5</td><td> </td></tr></table> <p>In the conditions applicable to Table 3B delete the words "in some countries" in condition ^{a)}.</p> <p>In NOTE 1, applicable to Table 3B, delete the second sentence.</p>	Up to and including 6		0,75 ^{a)}		Over 6 up to and including 10	(0,75) ^{b)}	1,0		Over 10 up to and including 16	(1,0) ^{c)}	1,5			N/A
Up to and including 6		0,75 ^{a)}													
Over 6 up to and including 10	(0,75) ^{b)}	1,0													
Over 10 up to and including 16	(1,0) ^{c)}	1,5													
3.3.4	<p>In Table 3D, delete the fourth line: conductor sizes for 10 to 13 A, and replace with the following:</p> <table><tr><td> Over 10 up to and including 16</td><td>1,5 to 2,5</td><td> </td><td>1,5 to 4</td><td> </td></tr></table> <p>Delete the fifth line: conductor sizes for 13 to 16 A.</p>	Over 10 up to and including 16	1,5 to 2,5		1,5 to 4			N/A							
Over 10 up to and including 16	1,5 to 2,5		1,5 to 4												
4.3.13.6	<p>Add the following NOTE:</p> <p>NOTE Z1 Attention is drawn to 1999/519/EC: Council Recommendation on the limitation of exposure of the general public to electromagnetic fields 0 Hz to 300 GHz. Standards taking into account this Recommendation which demonstrate compliance with the applicable EU Directive are indicated in the OJEC.</p>		N/A												

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Clause	Requirement + Test	Result - Remark	Verdict
Annex H	<p>Replace the last paragraph of this annex by:</p> <p>At any point 10 cm from the surface of the OPERATOR ACCESS AREA, the dose rate shall not exceed 1 μSv/h (0,1 mR/h) (see NOTE). Account is taken of the background level.</p> <p>Replace the notes as follows:</p> <p>NOTE These values appear in Directive 96/29/Euratom.</p> <p>Delete NOTE 2.</p>		N/A
Bibliography	Additional EN standards.		—



ZA	NORMATIVE REFERENCES TO INTERNATIONAL PUBLICATIONS WITH THEIR CORRESPONDING EUROPEAN PUBLICATIONS	—
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ZB	SPECIAL NATIONAL CONDITIONS	P
1.2.4.1	In Denmark , certain types of Class I appliances (see 3.2.1.1) may be provided with a plug not establishing earthing conditions when inserted into Danish socket-outlets.	N/A
1.5.7.1	In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.2.	N/A
1.5.8	In Norway , due to the IT power system used (see annex V, Figure V.7), capacitors are required to be rated for the applicable line-to-line voltage (230 V).	N/A
1.5.9.4	In Finland, Norway and Sweden , the third dashed sentence is applicable only to equipment as defined in 6.1.2.2 of this annex.	N/A
1.7.2.1	<p>In Finland, Norway and Sweden, CLASS I PLUGGABLE EQUIPMENT TYPE A intended for connection to other equipment or a network shall, if safety relies on connection to protective earth or if surge suppressors are connected between the network terminals and accessible parts, have a marking stating that the equipment must be connected to an earthed mains socket-outlet.</p> <p>The marking text in the applicable countries shall be as follows:</p> <p>In Finland: "Laite on liitettävä suojamaadoituskoskettimilla varustettuun pistorasiaan"</p> <p>In Norway: "Apparatet må tilkoples jordet stikkontakt"</p> <p>In Sweden: "Apparaten skall anslutas till jordat uttag"</p>	N/A
1.7.5	In Denmark , socket-outlets for providing power to other equipment shall be in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-3a, DK 1-5a or DK 1-7a, when used on Class I equipment. For STATIONARY EQUIPMENT the socket-outlet shall be in accordance with Standard Sheet DK 1-1b or DK 1-5a.	N/A
2.2.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.3.2	In Finland, Norway and Sweden there are additional requirements for the insulation. See 6.1.2.1 and 6.1.2.2 of this annex.	N/A
2.3.4	In Norway , for requirements see 1.7.2.1, 6.1.2.1 and 6.1.2.2 of this annex.	N/A

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Clause	Requirement + Test	Result - Remark	Verdict																								
2.6.3.3	In the United Kingdom , the current rating of the circuit shall be taken as 13 A, not 16 A.		N/A																								
2.7.1	In the United Kingdom , to protect against excessive currents and short-circuits in the PRIMARY CIRCUIT of DIRECT PLUG-IN EQUIPMENT, tests according to 5.3 shall be conducted, using an external protective device rated 30 A or 32 A. If these tests fail, suitable protective devices shall be included as integral parts of the DIRECT PLUG-IN EQUIPMENT, so that the requirements of 5.3 are met.		N/A																								
2.10.5.13	In Finland, Norway and Sweden , there are additional requirements for the insulation, see 6.1.2.1 and 6.1.2.2 of this annex.		N/A																								
3.2.1.1	<p>In Switzerland, supply cords of equipment having a RATED CURRENT not exceeding 10 A shall be provided with a plug complying with SEV 1011 or IEC 60884-1 and one of the following dimension sheets:</p> <table> <tr> <td>SEV 6532-2.1991</td><td>Plug Type 15</td><td>3P+N+PE</td><td>250/400 V, 10 A</td></tr> <tr> <td>SEV 6533-2.1991</td><td>Plug Type 11</td><td>L+N</td><td>250 V, 10 A</td></tr> <tr> <td>SEV 6534-2.1991</td><td>Plug Type 12</td><td>L+N+PE</td><td>250 V, 10 A</td></tr> </table> <p>In general, EN 60309 applies for plugs for currents exceeding 10 A. However, a 16 A plug and socket-outlet system is being introduced in Switzerland, the plugs of which are according to the following dimension sheets, published in February 1998:</p> <table> <tr> <td>SEV 5932-2.1998</td><td>Plug Type 25</td><td>3L+N+PE</td><td>230/400 V, 16 A</td></tr> <tr> <td>SEV 5933-2.1998</td><td>Plug Type 21</td><td>L+N</td><td>250 V, 16 A</td></tr> <tr> <td>SEV 5934-2.1998</td><td>Plug Type 23</td><td>L+N+PE</td><td>250 V, 16 A</td></tr> </table>	SEV 6532-2.1991	Plug Type 15	3P+N+PE	250/400 V, 10 A	SEV 6533-2.1991	Plug Type 11	L+N	250 V, 10 A	SEV 6534-2.1991	Plug Type 12	L+N+PE	250 V, 10 A	SEV 5932-2.1998	Plug Type 25	3L+N+PE	230/400 V, 16 A	SEV 5933-2.1998	Plug Type 21	L+N	250 V, 16 A	SEV 5934-2.1998	Plug Type 23	L+N+PE	250 V, 16 A		N/A
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3.2.1.1	<p>In Denmark, supply cords of single-phase equipment having a rated current not exceeding 13 A shall be provided with a plug according to the Heavy Current Regulations, Section 107-2-D1.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules shall be provided with a plug in accordance with standard sheet DK 2-1a or DK 2-5a.</p> <p>If poly-phase equipment and single-phase equipment having a RATED CURRENT exceeding 13 A is provided with a supply cord with a plug, this plug shall be in accordance with the Heavy Current Regulations, Section 107-2-D1 or EN 60309-2.</p>		N/A																								
3.2.1.1	<p>In Spain, supply cords of single-phase equipment having a rated current not exceeding 10 A shall be provided with a plug according to UNE 20315:1994.</p> <p>Supply cords of single-phase equipment having a rated current not exceeding 2,5 A shall be provided with a plug according to UNE-EN 50075:1993.</p> <p>CLASS I EQUIPMENT provided with socket-outlets with earth contacts or which are intended to be used in locations where protection against indirect contact is required according to the wiring rules, shall be provided with a plug in accordance with standard UNE 20315:1994.</p> <p>If poly-phase equipment is provided with a supply cord with a plug, this plug shall be in accordance with UNE-EN 60309-2.</p>		N/A																								

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
3.2.1.1	In the United Kingdom , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to BS 1363 by means of that flexible cable or cord and plug, shall be fitted with a 'standard plug' in accordance with Statutory Instrument 1768:1994 - The Plugs and Sockets etc. (Safety) Regulations 1994, unless exempted by those regulations. NOTE 'Standard plug' is defined in SI 1768:1994 and essentially means an approved plug conforming to BS 1363 or an approved conversion plug.		N/A
3.2.1.1	In Ireland , apparatus which is fitted with a flexible cable or cord and is designed to be connected to a mains socket conforming to I.S. 411 by means of that flexible cable or cord and plug, shall be fitted with a 13 A plug in accordance with Statutory Instrument 525:1997 - National Standards Authority of Ireland (section 28) (13 A Plugs and Conversion Adaptors for Domestic Use) Regulations 1997.		N/A
3.2.4	In Switzerland , for requirements see 3.2.1.1 of this annex.		N/A
3.2.5.1	In the United Kingdom , a power supply cord with conductor of 1,25 mm ² is allowed for equipment with a rated current over 10 A and up to and including 13 A.		N/A
3.3.4	In the United Kingdom , the range of conductor sizes of flexible cords to be accepted by terminals for equipment with a RATED CURRENT of over 10 A up to and including 13 A is: • 1,25 mm ² to 1,5 mm ² nominal cross-sectional area.		N/A
4.3.6	In the United Kingdom , the torque test is performed using a socket outlet complying with BS 1363 part 1:1995, including Amendment 1:1997 and Amendment 2:2003 and the plug part of DIRECT PLUG-IN EQUIPMENT shall be assessed to BS 1363: Part 1, 12.1, 12.2, 12.3, 12.9, 12.11, 12.12, 12.13, 12.16 and 12.17, except that the test of 12.17 is performed at not less than 125 °C. Where the metal earth pin is replaced by an Insulated Shutter Opening Device (ISOD), the requirements of clauses 22.2 and 23 also apply.		N/A
4.3.6	In Ireland , DIRECT PLUG-IN EQUIPMENT is known as plug similar devices. Such devices shall comply with Statutory Instrument 526:1997 - National Standards Authority of Ireland (Section 28) (Electrical plugs, plug similar devices and sockets for domestic use) Regulations, 1997.		N/A
5.1.7.1	In Finland, Norway and Sweden TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for the following equipment: • STATIONARY PLUGGABLE EQUIPMENT TYPE A that - is intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, for example, in a telecommunication centre; and - has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR; and - is provided with instructions for the installation of that conductor by a SERVICE PERSON; • STATIONARY PLUGGABLE EQUIPMENT TYPE B; • STATIONARY PERMANENTLY CONNECTED EQUIPMENT.		N/A

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Clause	Requirement + Test	Result - Remark	Verdict
6.1.2.1	<p>In Finland, Norway and Sweden, add the following text between the first and second paragraph of the compliance clause:</p> <p>If this insulation is solid, including insulation forming part of a component, it shall at least consist of either</p> <ul style="list-style-type: none"> - two layers of thin sheet material, each of which shall pass the electric strength test below, or - one layer having a distance through insulation of at least 0,4 mm, which shall pass the electric strength test below. <p>If this insulation forms part of a semiconductor component (e.g. an optocoupler), there is no distance through insulation requirement for the insulation consisting of an insulating compound completely filling the casing, so that CLEARANCES and CREEPAGE DISTANCES do not exist, if the component passes the electric strength test in accordance with the compliance clause below and in addition</p> <ul style="list-style-type: none"> - passes the tests and inspection criteria of 2.10.11 with an electric strength test of 1,5 kV multiplied by 1,6 (the electric strength test of 2.10.10 shall be performed using 1,5 kV), and - is subject to ROUTINE TESTING for electric strength during manufacturing, using a test voltage of 1,5 kV. <p>It is permitted to bridge this insulation with a capacitor complying with EN 132400:1994, subclass Y2.</p> <p>A capacitor classified Y3 according to EN 132400:1994, may bridge this insulation under the following conditions:</p> <ul style="list-style-type: none"> - the insulation requirements are satisfied by having a capacitor classified Y3 as defined by EN 132400, which in addition to the Y3 testing, is tested with an impulse test of 2,5 kV defined in EN 60950-1:2006, 6.2.2.1; - the additional testing shall be performed on all the test specimens as described in EN 132400; - the impulse test of 2,5 kV is to be performed before the endurance test in EN 132400, in the sequence of tests as described in EN 132400. 		N/A
6.1.2.2	<p>In Finland, Norway and Sweden, the exclusions are applicable for PERMANENTLY CONNECTED EQUIPMENT, PLUGGABLE EQUIPMENT TYPE B and equipment intended to be used in a RESTRICTED ACCESS LOCATION where equipotential bonding has been applied, e.g. in a telecommunication centre, and which has provision for a permanently connected PROTECTIVE EARTHING CONDUCTOR and is provided with instructions for the installation of that conductor by a SERVICE PERSON.</p>		N/A
7.2	<p>In Finland, Norway and Sweden, for requirements see 6.1.2.1 and 6.1.2.2 of this annex.</p> <p>The term TELECOMMUNICATION NETWORK in 6.1.2 being replaced by the term CABLE DISTRIBUTION SYSTEM.</p>		N/A
7.3	<p>In Norway and Sweden, there are many buildings where the screen of the coaxial cable is normally not connected to the earth in the building installation.</p>		N/A
7.3	<p>In Norway, for installation conditions see EN 60728-11:2005.</p>		N/A
ZC	A-DEVIATIONS (informative)		P

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Clause	Requirement + Test	Result - Remark	Verdict
1.5.1	Sweden (Ordinance 1990:944) Add the following: NOTE In Sweden, switches containing mercury are not permitted.		N/A
1.5.1	Switzerland (Ordinance on environmentally hazardous substances SR 814.081, Annex 1.7, Mercury - Annex 1.7 of SR 814.81 applies for mercury.) Add the following: NOTE In Switzerland, switches containing mercury such as thermostats, relays and level controllers are not allowed.		N/A
1.7.2.1	Denmark (Heavy Current Regulations) Supply cords of CLASS I EQUIPMENT, which is delivered without a plug, must be provided with a visible tag with the following text: <p style="text-align: center;">Vigtigt! Lederen med grøn/gul isolation må kun tilsluttes en klemme mærket</p>  eller  If essential for the safety of the equipment, the tag must in addition be provided with a diagram, which shows the connection of the other conductors, or be provided with the following text: "For tilslutning af de øvrige ledere, se medfølgende installationsvejledning."		N/A
1.7.2.1	Germany (Gesetz über technische Arbeitsmittel und Verbraucherprodukte (Geräte- und Produktsicherheitsgesetz – GPSG) [Law on technical labour equipment and consumer products], of 6th January 2004, Section 2, Article 4, Clause (4), Item 2). If for the assurance of safety and health certain rules during use, amending or maintenance of a technical labour equipment or readymade consumer product are to be followed, a manual in German language has to be delivered when placing the product on the market. Of this requirement, rules for use even only by SERVICE PERSONS are not exempted.		N/A
1.7.5	Denmark (Heavy Current Regulations) With the exception of CLASS II EQUIPMENT provided with a socket outlet in accordance with the Heavy Current Regulations, Section 107-2-D1, Standard Sheet DK 1-4a, CLASS II EQUIPMENT shall not be fitted with socket-outlets for providing power to other equipment.		N/A
1.7.13	Switzerland (Ordinance on chemical hazardous risk reduction SR 814.81, Annex 2.15 Batteries) Annex 2.15 of SR 814.81 applies for batteries.		N/A
5.1.7.1	Denmark (Heavy Current Regulations, Chapter 707, clause 707.4) TOUCH CURRENT measurement results exceeding 3,5 mA r.m.s. are permitted only for PERMANENTLY CONNECTED EQUIPMENT and PLUGGABLE EQUIPMENT TYPE B.		N/A

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
1.5.1	TABLE: List of critical components				P
Object/part no.	Manufacturer/ trademark	Type/model	Technical data	Standard	Mark(s) of conformity ^{1.}
Power Adaptor (For input rating: 19Vdc, 3.42A)	Darfon	V173	I/P: 100-240Vac, 50-60Hz, 1.5A. O/P: 19Vdc, 3.42A, 40°C, Class I	EN 60950- 1/A11: 2001 IEC 60950-1: 2001 UL 60950-1	TÜV, UL, CB by TÜV
	Lite-On	PA-1650-68	I/P: 100-240Vac, 50-60Hz, 2.0A. O/P: 19Vdc, 3.42A, 40°C, Class I	EN 60950- 1/A11: 2001 IEC 60950-1: 2001 UL 60950-1	TÜV, UL, CB by TÜV
	Lite-On	PA-1650-65	I/P: 100-240Vac, 50-60Hz, 2.0A. O/P: 19Vdc, 3.42A, 40°C, Class II	IEC 60950-1: 2001 UL 60950-1	UL, CB by Nemko
	FSP	FSP065-RAB	I/P: 100-240Vac, 50-60Hz, 1.5A. O/P: 19Vdc, 3.42A, 40°C, Class I	EN 60950-1: 2001+A11 IEC 60950-1: 2001 UL 60950-1	TÜV, UL, CB by TÜV
(For input rating: 18.5Vdc, 3.5A)	Hipro (Chicony Power Technology Co Ltd)	HP-OK065B13	I/P: 100-240Vac, 50-60Hz, 1.7A. O/P: 18.5Vdc, 3.5A, 40°C, Class I	EN 60950- 1:2001 IEC 60950-1: 2001 UL 60950-1	TÜV, UL, CB by Nemko
LCD Panel (LED backlight)	AUO	B156HW01	15.6" TFT	--	--
	AUO	B156XW02	15.6" TFT	--	--
	AUO	B156RW01	15.6" TFT	--	--
	LG	LP156WH2	15.6" TFT	--	--
	LG	LP156WD1	15.6" TFT	--	--
	LG	LP156WF1	15.6" TFT	--	--
	CHI MEI	N156B6-L02	15.6" TFT	--	--
	CHI MEI	N156B6-L05	15.6" TFT	--	--
	CHI MEI	N156B6-L06	15.6" TFT	--	--
	CHI MEI	N156B6-L03	15.6" TFT	--	--
	INNOLUX	BT156GW01	15.6" TFT	--	--
	INNOLUX	BT156GW02	15.6" TFT	--	--
LCD Panel	Chi Mei	N156B3-L02	15.6" TFT	--	--

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
HDD (Optional)	Toshiba or equivalent	HDD2yyyyx (x=A-Z, y=0-9 or A-Z) or equivalent	5Vdc, 1.1A max.	EN 60950-1:2001 IEC 60950-1:2001	TÜV, UL
CD-RW/DVD Drive (Optional)	Toshiba Samsung or equivalent	TS-L463 or equivalent	5Vdc, 1.3A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, UL
DVD Writer (Optional)	Toshiba Samsung or equivalent	TS-L633 or equivalent	5Vdc, 1.3A or 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, UL
	Toshiba Samsung or equivalent	TS-L632 or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, UL
	Toshiba Samsung or equivalent	TS-U633 or equivalent	5Vdc, 1.3A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, UL
BD-Rom/DVD Rewriter (Optional)	Hitachi-LG or equivalent	CT10N or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1/A2:2001 EN 60950-1/A11:2004 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, UL

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Hitachi-LG or equivalent	CT21N or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V- 1	EN 60825- 1/A2:2001 EN 60950- 1:2006 IEC 60825- 1:1993+A1+A2 IEC 60950- 1:2005 UL 60950-1	TÜV, UL
Super Multi DVD Rewriter (Optional)	Hitachi-LG or equivalent	GSA-T50N or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V- 1	EN 60825- 1/A2:2001 EN 60950- 1/A11:2004 IEC 60825- 1:1993+A1+A2 IEC 60950- 1:2001 UL 60950-1	TÜV, UL
	Hitachi-LG or equivalent	GT3** (first "*" can be any number 0-9 and second "*" can be any alphanumeric character) or equivalent	5Vdc, 1.8A max. Laser Class 1 Bezel min. 1mm thick, rated min. V- 1	EN 60825- 1:1994 + A1+A2 EN 60950- 1:2006 IEC 60825- 1:1993+A1+A2 IEC 60950- 1:2005 UL 60950-1	TÜV, CB by Intertek, UL
	Hitachi-LG or equivalent	GT10N or equivalent	5Vdc, 1.8A max. Laser Class 1 Bezel min. 1mm thick, rated min. V- 1	EN 60825- 1/A2:2001 EN 60950- 1/A11:2004 IEC 60825- 1:1993 and A1+A2 IEC 60950- 1:2001 UL 60950-1	TÜV, CB by Intertek, UL
Blu-ray Disc Drive (Optional)	Panasonic or equivalent	UJ130A or UJ130E or equivalent	5Vdc, 1.6A max. Laser Class 1 Bezel min. 1mm thick, rated min. V- 1	EN 60825- 1:1994+A1+A2 EN 60950- 1:2006 IEC 60825- 1:1993+A1+A2 IEC 60950- 1:2005 UL 60950-1	TÜV, CB by TÜV, UL

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
DVD MULTI DRIVE (Optional)	Panasonic or equivalent	UJ880A or equivalent	5Vdc, 1.6A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, CB by TÜV, UL
	Panasonic or equivalent	UJ892 or equivalent	5Vdc, 1.6A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, CB by TÜV, UL
DVD/CD Rewritable drive (Optional)	Philips & Lite-On or equivalent	DS-xx3Sxxx (x can be any alphanumeric or blank) or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, CB by TÜV, UL
	Philips & Lite-On or equivalent	DS-xx4Sxxx (x can be any alphanumeric or blank) or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:2007 EN 60950-1:2006+A11 IEC 60825-1:2007 IEC 60950-1:2005 UL 60950-1	TÜV, CB by TÜV, UL
DVD/CD REWRITABLE DRIVE (Optional)	Sony Optiarc or equivalent	AD-X58XSXXX (X=0-9, A-Z, "-" or blank) or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001	TÜV, UL

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Philips & Lite-On or equivalent	DS-xx5Sxxxxx (x can be any alphanumeric or blank) or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:2007 EN 60950-1:2006+A11 IEC 60825-1:2005 IEC 60950-1:2005 UL 60950-1	TÜV, UL, CB by TÜV
BD COMBO DRIVE (Optional)	Philips & Lite-On or equivalent	DS-4E1S or equivalent	5Vdc, 1.5A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2001+A11 IEC 60825-1:1993+A1+A2 IEC 60950-1:2001 UL 60950-1	TÜV, UL
BD/DVD/CD Writer Unit (Optional)	Pioneer or equivalent	BDR-TD01xxxxxy, BDC-TD01xxxxxy (x=A-Z, "-" or blank; y=0-9, A-Z, "-" or blank) or equivalent	5Vdc, 1.6A max. Laser Class 1 Bezel min. 1mm thick, rated min. V-1	EN 60825-1:1994+A1+A2 EN 60950-1:2006 IEC 60825-1:1993+A1+A2 IEC 60950-1:2005 UL 60950-1	TÜV, CB by TÜV, UL
RTC Battery (J_RTC1)	Mitsubishi	CR2032	Maximum abnormal charge current 10mA.	UL 1642	UL
	Double Best	CR2032	Max. abnormal charge current 10mA	UL 1642	UL
	VIC-DAWN	CR2032	Max. abnormal charge current 10mA	UL 1642	UL
Modem Card (Optional)	Motorola	ML3054	3.3Vdc, 20mA max.	EN 60950-1/A11: 2004 IEC 60950-1: 2001 UL 60950-1	TÜV, UL, CB by TÜV
- Insulation Sheet of Modem Card	--	--	V-2 or better, 0.07mm thick each, one or two layers	UL 94	UL

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
Modem Card (Optional)	Agere	D40 (D40 AM5)	3.3Vdc, 35mA	EN 60950-1/A11: 2004 IEC 60950-1: 2001 UL 60950-1	TÜV, UL CB by TÜV
- Insulation Sheet of Modem Card	--	--	V-2 or better, 0.07mm thick each, one or two layers	UL 94	UL
DC Fan (One provided)	ADDA	AB6505HX-J03	5Vdc, 0.4A., 4.65CFM min.	EN 60950-1: 2001+A11 IEC 60950-1: 2001 UL 507	TÜV, UL
	A-POWER	BS5005HS-U89	5Vdc, 0.5A., 4.45CFM min.	EN 60950-1: 2001+A11 IEC 60950-1: 2001 UL 507	TÜV, UL
DC/AC Inverter (Optional)	Mitac	M660JEINT-D	I/P: 20Vdc maximum, 700mA maximum. O/P: 1900Vrms maximum, 6.5mA maximum.	--	--
- DC/AC Inverter transformer (T1)	Yao Sheng	273001050293	105°C min.	--	--
DC/AC Inverter (Optional)	Taiwan Sumida	M660SRUINT-E	I/P: 20Vdc maximum. 320mA maximum. O/P: 1900Vrms maximum, 6.5mA maximum.	--	--
- DC/AC Inverter transformer (T1)	Taiwan Sumida	CIUH8D37T	105°C min.	--	--
Speakers (Two provided)	--	--	8ohm, 1.5W	--	--
PCB	--	--	V-1 min., 105°C min.	UL 796	UL
Plastic Enclosure	Sabic	CM6140	V-0 minimum, 1.5 mm thick minimum.	UL 94	UL
	Sabic	C7230P	V-0 min. 1.2 mm thick min.	UL 94	UL

IEC/EN 60950-1					
Clause	Requirement + Test			Result - Remark	Verdict
	Teijin Chemicals Ltd Research & Development Div	TN-3715B	V-1 min. 1.0 mm thick min.	UL 94	UL
Battery Pack	Simplo	M660NBAT-6 SIMPLO	10.8Vdc or 11.1Vdc, 4800mAh/51.84Wh or 53.28Wh; 4400mAh/47.52Wh or 48.84Wh; 4000mAh/43.2Wh or 44.4Wh, 45°C	EN 60950-1/A11: 2009 IEC 60950-1: 2005 UL 60950-1, UL 2054	TÜV, UL
	Simplo	SQU-601 SIMPLO	10.8Vdc, 7200mAh 77.76Wh or 11.1Vdc, 7200mAh/79.92Wh, 45°C	EN 60950-1/A11: 2009 IEC 60950-1: 2005 UL 60950-1, UL 2054	TÜV, UL
	Gallopwire	M660BAT-6	10.8Vdc, 4400mAh, 47.52Wh, 45°C	EN 60950-1/A11: 2009 IEC 60950-1: 2005 UL 60950-1, UL 2054	TÜV, UL
Supplementary information:					
1. An asterisk indicates a mark that assures the agreed level of surveillance.					

1.6.2	TABLE: Electrical data (in normal conditions)					P
U (V)	I (A)	I _{rated} (A)	P (W)	Fuse #	I _{fuse} (A)	Condition/status
For unit w/o DC/AC inverter:						
Test with CPU source by Intel® Core i7-620M Processor, speed 2.66GHz						
DC 19	3.35	3.42	63.7	--	--	Maximum normal load with battery charging mode.
Test with CPU source by Intel® Core i5-540M Processor, speed 2.53GHz						
DC 19	3.24	3.42	61.6	--	--	Maximum normal load with battery charging mode.
Test with CPU source by Intel® Core i3-350M Processor, speed 2.27GHz						
DC 19	3.06	3.42	58.1	--	--	Maximum normal load with battery charging mode.
Test with CPU source by Intel® Celeron P4500 Processor, speed 1.86GHz						
DC 19	3.23	3.42	61.4	--	--	Maximum normal load with battery charging mode.

IEC/EN 60950-1							
Clause	Requirement + Test				Result - Remark		Verdict
Test with CPU source by Intel® Core i7-620M Processor, speed 2.66GHz							
DC 18.5	3.43	3.5	63.5	--	--	Maximum normal load with battery charging mode.	
For unit with DC/AC inverter by Taiwan Sumida / M660SRUINT-E							
Test with CPU source by Intel® Core i7-620M Processor, speed 2.66GHz							
DC 18.5	3.48	3.5	64.4	--	--	Maximum normal load with battery charging mode.	
For unit with DC/AC inverter by Mitac / M660JEINT-D							
Test with CPU source by Intel® Core i7-620M Processor, speed 2.66GHz							
DC 18.5	3.48	3.5	64.4	--	--	Maximum normal load with battery charging mode.	
Supplementary information:							
1. Test is equipped with battery pack by SQU-601 SIMPLO with 7200mAh							

2.10.3 and 2.10.4	TABLE: Clearance and creepage distance measurements					P
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
TNV-3 circuit traces to SELV circuit trace	140	125	1.0	See below	1.5	See below
▪ MJ_MODEM1 to MJ_SPK1	140	125	1.0	3.0	1.5	3.0
▪ ML5 to SELV trace	140	125	1.0	3.0	1.5	3.0
Supplementary information:						
1. Functional insulation shorted, see sub-clause 5.3.4. 2. The insulation distances between primary and secondary are keep in approved power adaptor only. 3. The modem module Motorola / ML3054 was covered completely by one layer of thin insulation sheet at least. 4. The modem module Agere / D40 (D40 AM5) was covered completely by one layer of thin insulation sheet at least.						

2.10.5	TABLE: Distance through insulation measurements					N/A
Distance through insulation (DTI) at/of:	U peak (V)	U r.m.s. (V)	Test voltage (V)	Required DTI (mm)	DTI (mm)	
Supplementary information:						

IEC/EN 60950-1									
Clause	Requirement + Test					Result - Remark			Verdict
4.3.8	TABLE: Batteries								P
The tests of 4.3.8 are applicable only when appropriate battery data is not available						See below.			P
Is it possible to install the battery in a reverse polarity position?						1.			P
	Non-rechargeable batteries			Rechargeable batteries					
	Discharging		Un-intentional charging	Charging		Discharging		Reversed charging	
	Meas. current	Manuf. Specs.		Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.	Meas. current	Manuf. Specs.
For RTC battery:									
Max. current during fault condition	--	--	-- 2.	--	--	--	--	--	--
For battery pack by Simplo / M660NBAT-6 SIMPLO:									
Max. current during normal condition	--	--	--	12.58V 2.98A	12.6V/ 3.08A	4.3A	6A	-- 1.	-- 1.
Max. current during fault condition	--	--	--	-- 2.	12.6V/ 3.08A	--	--	-- 1.	-- 1.
For battery pack by Simplo / SQU-601 SIMPLO:									
Max. current during normal condition	--	--	--	12.58V 2.98A	12.6V/ 3.4A	4.3A	4.8A	-- 1.	-- 1.
Max. current during fault condition	--	--	--	-- 2.	12.6V/ 3.4A	--	--	-- 1.	-- 1.
For battery pack by Gallopwire / M660BAT-6:									
Max. current during normal condition	--	--	--	12.58V 2.98A	12.6V/ 4.4A	4.3A	4.4A	-- 1.	-- 1.
Max. current during fault condition	--	--	--	-- 2.	12.6V/ 4.4A	--	--	-- 1.	-- 1.

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
Test results:			Verdict
- Chemical leaks		No such results occurred.	P
- Explosion of the battery		No such results occurred.	P
- Emission of flame or expulsion of molten metal		No such results occurred.	P
- Electric strength tests of equipment after completion of tests			N/A
Supplementary information:			
1. No reverse charging is likely due to the construction design.			
2. See appended table 5.3.			

4.5	TABLE: Thermal requirements		P
	Supply voltage (V)	A). DC 18.5V with battery charging mode B). Power from battery discharging mode	—
	Ambient T_{min} (°C)	--	—
	Ambient T_{max} (°C)	--	—
Maximum measured temperature T of part/at::		T (°C)	Allowed T_{max} (°C)
Test Voltage:		A)	B)
Test with DC/AC Inverter: Mitac / M660JEINT-D			
PCB near U16 (CPU)		59.2	56.8
PCB near U26		53.6	53.2
PCB near U27		45.6	46.5
RTC Battery		50.7	49.1
PCB near U2 (DC/AC Inverter)		60.8	61.2
T1 coil (DC/AC Inverter)		78.3	76.2
ODD		42.8	43.3
HDD		46.9	45.3
Enclosure inside, near U16 (CPU)		45.2	46.2
Enclosure outside, near U16 (CPU)		43.2	45.2
Enclosure inside, near T1 of DC/AC Inverter		55.7	62.1
Enclosure outside, near T1 of DC/AC Inverter		51.8	54.5
Enclosure inside, near battery pack		40.8	54.4
Enclosure outside, near battery pack		38.4	53.6
Tamb		25.7	25.5
Tma		35.0	35.0

IEC/EN 60950-1								
Clause	Requirement + Test				Result - Remark		Verdict	
Test with DC/AC Inverter: Taiwan Sumida / M660SRUINT-E								
PCB near U3 (DC/AC Inverter)				59.9	59.5	105		
T1 coil (DC/AC Inverter)				76.3	74.9	105		
Tamb				25.7	25.5	--		
Tma				35.0	35.0	--		
Supplementary information:								
1. The temperatures were measured under worst case normal mode defined in 1.2.2.1 and as described in 1.6.2 at voltages as above.								
2. The maximum ambient temperature (Tma) permitted by the manufacturer's specification is 35 °C.								
3. All values for T (°C) are re-calculated from Tamb respectively.								
4. The CPU source by Intel® Core i7-620M Processor, speed 2.66GHz and battery pack by SQU-601 SIMPLO with 7200mAh during the test.								
Temperature T of winding:		t ₁ (°C)	R ₁ (Ω)	t ₂ (°C)	R ₂ (Ω)	T (°C)	Allowed T _{max} (°C)	Insulation class
Supplementary information:								
4.5.5	TABLE: Ball pressure test of thermoplastic parts							N/A
	Allowed impression diameter (mm): ≤ 2 mm							—
Part				Test temperature (°C)		Impression diameter (mm)		
Supplementary information:								
4.7	Table: Resistance to fire							P
Part		Manufacturer of material	Type of material	Thickness (mm)	Flammability class	Evidence		
Supplementary information:								
See appended table 1.5.1 for details.								
5.2	TABLE: Electric strength tests, impulse tests and voltage surge tests							P
Test voltage applied between:				Voltage shape (AC, DC, impulse, surge)	Test voltage (V)	Breakdown Yes / No		
Tests with modem card Motorola / ML3054 and Agere / D40 (D40 AM5)								
TNV-3 to keyboard				AC	1500	No		

IEC/EN 60950-1			
Clause	Requirement + Test	Result - Remark	Verdict
TNV-3 to entire exterior enclosure with metal foil	AC	1500	No
TNV-3 to SELV output ports	AC	1500	No
Supplementary information:			

5.3	TABLE: Fault condition tests					P
	Ambient temperature (°C) : See below.					—
	Power source for EUT: Manufacturer, model/type, output rating : See appended table 1.5.1.					—
Component No.	Fault	Supply voltage (V)	Test time	Fuse #	Fuse current (A)	Observation
CPU Fan	Stalled	DC 18.5	1 h	--	--	Unit shut down. The max. temp. of T1 coil of inverter= 69°C, Tamb = 26.2°C. No damage, no hazard.
Ventilation Openings	Blocked	DC 18.5	2.5 h	--	--	Unit shut down. The max. temp. of T1 coil of inverter= 71.6°C, Tamb = 26.7°C. No damage, no hazard.
For RTC battery:						
D128	s-c	DC 19	10 min	--	--	The reverse current is measured as 2.9mA, no hazard.
R327	s-c	DC 19	10 min	--	--	The reverse current is measured as 0mA, no hazard.
The charging circuit for Battery Pack:						
PR129 (Overcharge)	s-c	--	--	--	--	Maximum charge voltage and current is 12.6V/0.4A and is operated within the rating of certified battery pack.
PQ16A (1,2 to 7) (Overcharge)	s-c	--	--	--	--	Maximum charge voltage and current is 12.6V/0A and is operated within the rating of certified battery pack.
PR135 (Overcharge)	s-c	--	--	--	--	Maximum charge voltage and current is 12.6V/0A and is operated within the rating of certified battery pack.
Supplementary information: Use abbreviations: s-c=short-circuited.						

List of test equipment used:

Clause	Measurement / testing	Testing / measuring equipment / material used	Range used	Calibration date
Supplementary information: No listing of test equipment used necessary for chosen test procedure.				

Clause	Requirement + Test	Result - Remark			Verdict
2.1.1.5	TABLE: Energy hazard measurement				N/A
Voltage (rated) (V)	Current (rated) (A)	Voltage (max.) (V)	Current (max.) (A)	VA (max.) (VA)	
Supplementary information:					

2.1.1.7	TABLE: Discharge test			N/A
Condition	τ calculated (s)	τ measured (s)	t u→0V (s)	Comments
Supplementary information:				

2.2.2	TABLE: SELV measurement (under normal conditions)			N/A
Transformer	Location	Voltage (max.) (V)		Voltage Limitation Component
		V peak	V d.c.	
Supplementary information:				

2.2.3	TABLE: SELV measurement (under fault conditions)		N/A
Location		Voltage (max.) (V)	Comments
Supplementary information:			

2.4.2	TABLE: Limited current circuit measurement					P
Location		Voltage (V)	Current (mA)	Freq. (kHz)	Limit (mA)	Comments
For DC/AC Inverter: MITAC, type M660JEINT-D						
Normal condition						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	3.48	1.74	55	38.5		
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	1.4	0.7	55	38.5		
Single fault: C4 shorted						

Clause	Requirement + Test				Result - Remark	Verdict
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	4.04	2.02	55	38.5		
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	1.68	0.84	55	38.5		
Single fault: C3 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	3.88	1.94	55	38.5		
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	2.66	1.33	55	38.5		
Single fault: U1 pin2 to 6 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: R18 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: R14 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	3.48	1.74	55	38.5		
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	1.4	0.7	55	38.5		

Clause	Requirement + Test			Result - Remark		Verdict
Single fault: D2 pin2 to 3 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	3.48	1.74	55	38.5		
T1 pin3 to pin4	0	0	--	--	Unit shut down immediately.	
T1 pin4 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin3 to earth	1.4	0.7	55	38.5		
For DC/AC Inverter: Taiwan Sumida, type M660SRUINT-E						
Normal condition						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	4.4	2.2	59	41.3		
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: C6 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: C5 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	4.4	2.2	60	42.0		
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: U2 pin 2 to 6 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: D1 pin1 to 2 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	

Clause	Requirement + Test				Result - Remark	Verdict
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: U1 pin4 to 2 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: U3 pin19 to 20 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: R14 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	3.7	1.65	59	41.3		
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Single fault: R20 shorted						
CN2 pin1 to pin2	0	0	--	--	Unit shut down immediately.	
CN2 pin1 to earth	0	0	--	--	Unit shut down immediately.	
CN2 pin2 to earth	0	0	--	--	Unit shut down immediately.	
T1 pin4 to pin5	0	0	--	--	Unit shut down immediately.	
T1 pin5 to earth	0	0	--	--	Unit shut down immediately.	
Supplementary information: Output measured with a 2kohm non-inductive resistor as load.						

2.5	TABLE: limited power source measurement				P
		Limits	Measured		Verdict

Clause	Requirement + Test	Result - Remark	Verdict
For USB Port (J_USB1 pin 1 to GND):			
According to Table 2B - Normal condition, Uoc = 5.04Vdc			
current (in A)	8	1.7	P
apparent power (in VA)	100	2.8	P
According to Table 2B - Single fault (U7 pin 2,3 to 6,7,8 short-circuited), Uoc = 5.04Vdc			
current (in A)	8	7.0	P
apparent power (in VA)	100	19.8	P
For USB Port (J_USB2 pin 1 to GND):			
According to Table 2B - Normal condition, Uoc = 5.04Vdc			
current (in A)	8	1.7	P
apparent power (in VA)	100	2.8	P
According to Table 2B - Single fault (U7 pin 2,3 to 6,7,8 short-circuited), Uoc = 5.05Vdc			
current (in A)	8	7.0	P
apparent power (in VA)	100	19.8	P
For USB Port (AJ-USB1 pin 1 to GND):			
According to Table 2B - Normal condition, Uoc = 5.04Vdc			
current (in A)	8	1.65	P
apparent power (in VA)	100	2.6	P
According to Table 2B - Single fault (U22 pin 2,3 to 6,7,8 short-circuited), Uoc = 5.04Vdc			
current (in A)	8	2.9	P
apparent power (in VA)	100	4.7	P
For HDMI port (J_HDMI1 pin 18 to GND):			
According to Table 2B - Normal condition, Uoc = 5.03Vdc			
current (in A)	8	3	P
apparent power (in VA)	100	5.7	P
According to Table 2B - Single fault (Q29 pin 1,2,3 to 5,6,7,8 short-circuited), Uoc = 5.03Vdc			
current (in A)	8	4.8	P
apparent power (in VA)	100	9.3	P
Supplementary information:			

2.6.3.4	TABLE: Resistance of earthing measurement		N/A
Location	Resistance measured (mΩ)	Comments	

Clause	Requirement + Test	Result - Remark	Verdict
Supplementary information:			

2.10.2	Table: Working voltage measurement			N/A
Location		RMS voltage (V)	Peak voltage (V)	Comments
Supplementary information:				

4.6.1, 4.6.2	Table: enclosure openings		P
Location	Size (mm)	Comments	
Top / Right / Rear	--	None.	
Left	Max. 11 x 2.9	Numerous rectangle openings and covered by fin type heat sink with 1.0 mm in width.	
	Max. 5.8 x 54.8	Express card slot use and covered by a metal case and PCB completely.	
	Max. 4.0 x 24.6	9 in 1 card reader slot use and covered by a metal case and PCB completely.	
Bottom	Max. 0.9 x 15.4 Max. 0.9 x 8.8 Max. 0.9 x 6.5	Numerous rectangle openings provided.	
Front (located at LCD panel)	Max. Ø 0.6	Numerous circle openings provided under two speakers.	
Supplementary information:			

5.1.6	TABLE: Touch current and protective conductor current measurement				P
Condition	L→ terminal A (mA)	N → terminal A (mA)	Limit (mA)	Comments	
Measured with adapter by mfr. Darfon, type V173 and modem card by mfr. Motorola, type ML3054					
From L/N to Tip	0.06	0.06	0.25		
From L/N to Ring	0.06	0.06	0.25		
Measured with adapter by mfr. Lite-On, type PA-1650-68 and modem card by mfr. Motorola, type ML3054					
From L/N to Tip	0.03	0.03	0.25		
From L/N to Ring	0.03	0.03	0.25		
Measured with adapter by mfr. Lite-On, type PA-1650-65 and modem card by mfr. Motorola, type ML3054					

Clause	Requirement + Test			Result - Remark	Verdict
From L/N to Tip	0.03	0.03	0.25		
From L/N to Ring	0.03	0.03	0.25		
Measured with adapter by mfr. FSP, type FSP065-RAB and modem card by mfr. Motorola, type ML3054					
From L/N to Tip	0.03	0.03	0.25		
From L/N to Ring	0.03	0.03	0.25		
Measured with adapter by mfr. Hipro, type HP-OK065B13 and modem card by mfr. Motorola, type ML3054					
From L/N to Tip	0.04	0.04	0.25		
From L/N to Ring	0.04	0.04	0.25		
Measured with adapter by mfr. Darfon, type V173 and modem card by mfr. Agere, type D40 (D40 AM5)					
From L/N to Tip	0.04	0.04	0.25		
From L/N to Ring	0.04	0.04	0.25		
Measured with adapter by mfr. Lite-On, type PA-1650-68 and modem card by mfr. Agere, type D40 (D40 AM5)ML3054					
From L/N to Tip	0.02	0.02	0.25		
From L/N to Ring	0.02	0.02	0.25		
Measured with adapter by mfr. Lite-On, type PA-1650-65 and modem card by mfr. Agere, type D40 (D40 AM5)					
From L/N to Tip	0.02	0.02	0.25		
From L/N to Ring	0.02	0.02	0.25		
Measured with adapter by mfr. FSP, type FSP065-RAB and modem card by mfr. mfr. Agere, type D40 (D40 AM5)					
From L/N to Tip	0.02	0.02	0.25		
From L/N to Ring	0.02	0.02	0.25		
Measured with adapter by mfr. Hipro, type HP-OK065B13 and modem card by mfr. Agere, type D40 (D40 AM5)					
From L/N to Tip	0.03	0.03	0.25		
From L/N to Ring	0.03	0.03	0.25		
Supplementary information: Input voltage : 264V for power adaptor Input frequency : 60Hz for power adaptor Overall capacity : In approved power adaptor					

C.2	TABLE: Insulation of transformers	
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Clause	Requirement + Test	Result - Remark	Verdict			
	Transformer part name		—			
	Manufacturer		—			
	Type		—			
Clearance (cl) and creepage distance (cr) at/of/between:	U peak (V)	U r.m.s. (V)	Required cl (mm)	cl (mm)	Required cr (mm)	cr (mm)
Primary /input winding and secondary/output winding (internal)						
Primary/input winding and core (internal)						
Secondary/output winding and core (internal)						
Primary/input part and secondary/output part (external)						
Primary/input part and core (external)						
Primary/input part and secondary/output winding (external)						
Secondary/output part and core (external)						
Secondary/output part and primary/input winding (external)						
Description of design:						
(a) Bobbin						
Primary/input pins :						
Secondary/output pins						
Material (manufacturer, type, ratings)						
Thickness (mm).....						
(b) General						
Supplementary information:						

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

EUROPEAN GROUP DIFFERENCES AND NATIONAL DIFFERENCES

Differences according to: EN 60950-1:2006+A11:2009

	CENELEC COMMON MODIFICATIONS (EN)		
ZA	Normative references to international publications with their corresponding European publications		—
ZB	ANNEX ZB, SPECIAL NATIONAL CONDITIONS (EN)		P
1.2.13.14	In Norway and Sweden , for requirements see 1.7.2.1 and 7.3 of this annex.		N/A
1.5.7.1	Replace the existing SNC by the following: In Finland, Norway and Sweden , resistors bridging BASIC INSULATION in CLASS I PLUGGABLE EQUIPMENT TYPE A must comply with the requirements in 1.5.7.1. In addition when a single resistor is used, the resistor must withstand the resistor test in 1.5.7.2.	Replaced.	N/A
1.7.2.1	Add as new SNC: In Norway and Sweden , the screen of the cable distribution system is normally not earthed at the entrance of the building and there is normally no equipotential bonding system within the building. Therefore the protective earthing of the building installation need to be isolated from the screen of a cable distribution system. It is however accepted to provide the insulation external to the equipment by an adapter or an interconnection cable with galvanic isolator, which may be provided by e.g. a retailer. The user manual shall then have the following or similar information in Norwegian and Swedish language respectively, depending on in what country the equipment is intended to be used in: “Equipment connected to the protective earthing of the building installation through the mains connection or through other equipment with a connection to protective earthing – and to a cable distribution system using coaxial cable, may in some circumstances create a fire hazard. Connection to a cable distribution system has therefore to be provided through a device providing electrical isolation below a certain frequency range (galvanic isolator, see EN 60728-11).” NOTE In Norway, due to regulation for installations of cable distribution systems, and in Sweden, a galvanic isolator shall provide electrical insulation below 5 MHz. The insulation shall withstand a dielectric strength of 1,5 kV r.m.s., 50 Hz or 60 Hz, for 1 min. Translation to Norwegian (the Swedish text will	Added.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	<p>also be accepted in Norway): “Utstyr som er koplet til beskyttelsesjord via nettplugg og/eller via annet jordtilkoplet utstyr – og er tilkoplet et kabel-TV nett, kan forårsake brannfare. For å unngå dette skal det ved tilkopling av utstyret til kabel-TV nettet installeres en galvanisk isolator mellom utstyret og kabel- TV nettet.” Translation to Swedish: ”Utrustning som är kopplad till skyddsjord via jordat vägguttag och/eller via annan utrustning och samtidigt är kopplad till kabel-TV nät kan i vissa fall medföra risk för brand. För att undvika detta skall vid anslutning av utrustningen till kabel-TV nät galvanisk isolator finnas mellan utrustningen och kabel-TV nätet.”</p>		
1.7.5	<p>Add the following paragraph to the existing SNC for Denmark: For CLASS II EQUIPMENT the socket outlet shall be in accordance with Standard Sheet DKA 1-4a.</p>	Added.	N/A
7.3	<p>Delete the existing SNC for Norway and Sweden (based on NOTE 1 of IEC 60950-1:2005 + corr. 1). Add as new SNC (based on future NOTE 3 of IEC 60950-1:200X): In Norway and Sweden, for requirements see 1.2.13.14 and 1.7.2.1 of this annex.</p>	Deleted.	N/A
ZC	ANNEX ZC, NATIONAL DEVIATIONS (EN)		N/A
1.5.1	<p>Sweden Delete the A-deviation.</p>	Deleted.	N/A
1.7.2.1	<p>Denmark Delete the A-deviation.</p>	Deleted.	N/A
1.7.5	<p>Denmark Delete the A-deviation.</p>	Deleted.	N/A
5.1.7.1	<p>Denmark Delete the A-deviation.</p>	Deleted.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

	Canadian National Differences		P
SPECIAL NATIONAL CONDITIONS			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, the Canadian Electrical Code (CEC), Part I, CAN/CSA C22.1, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	Class III equipment.	N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type (e.g., DP, CL2) specified in the CEC/NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the CEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings. A voltage rating that exceeds an attachment plug cap rating is only permitted if it does not exceed the extreme operating conditions in Table 2 of CAN/CSA C22.2 No. 235, and if it is part of a range that extends into the Table 2 "Normal Operating Conditions." Likewise, a voltage rating shall not be lower than the specified "Normal Operating Conditions," unless it is part of a range that extends into the "Normal Operating Conditions."	Class III equipment.	N/A
1.7.7	Wiring terminals intended to supply Class 2 outputs in accordance with CEC Part 1 or NEC shall be marked with the voltage rating and "Class 2" or equivalent. Marking shall be located adjacent to the terminals and shall be visible during wiring.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.	No such fuse.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
2.7.1	Suitable NEC/CEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.	No such components provided.	N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC/CEC.		N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A
3.2.5	Power supply cords are required to be no longer than 4.5 m in length. Flexible power supply cords are required to be compatible with Tables 11 and 12 of the CEC and Article 400 of the NEC.		N/A
3.2.9	Permanently connected equipment is required to have a suitable wiring compartment and wire bending space.		N/A
3.3	Wiring terminals and associated spacings for field wiring connections shall comply with CSA C22.2 No. 0.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, are required to be suitable for Canadian/US wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.		N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations 21 CFR 1040, as applicable.	Optical radiation in compliance with requirements of IEC 60825-1 (see corresponding sections of this test report). Laser Comply with FDA	P
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation is required to comply with the Canadian Radiation Emitting Devices Act, REDR C1370 and/or Code of Federal Regulations, 21 CFR 1020, as applicable.	No ionizing radiation.	N/A
OTHER DIFFERENCES			
11.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (Canadian and/or U.S.) component or material standard requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary	Components are UL approved, see appended table 1.5.1.	P

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.		
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage shall include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the maximum acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	TNV-3 circuits without other than ring signals.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	Complied.	P
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.	No CRT.	N/A
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	Considered. For Motorola / ML3054: 1). To SELV=0.01mA 2). To plastic enclosure with foil=0.01mA 3). To Keyboard=0.01mA For Agere / D40 (D40 AM5): 1). To SELV=0.1mA 2). To plastic enclosure with foil=0.01mA 3). To Keyboard=0.01mA	P
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.	Considered.	N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	Minimum No.26 AWG telecommunication line cord used and overvoltage test were performed on modem module (Tip-Ring) and on unit itself under different test conditions according to sub-clause 6.4 and Annex NAC.	P
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	Korean National Differences		P
	Corresponding National Standard: K 60950-1		
1.5.101	Addition: Plugs for the connection of the apparatus to the supply mains shall comply with the Korean requirement (KSC 8305).	No plug provided.	N/A
8	Addition: EMC The apparatus shall comply with the relevant CISPR standards.	To be evaluated when submitted for national approval.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
	US National Differences		P
SPECIAL NATIONAL CONDITIONS BASED ON FEDERAL REGULATIONS			
1.1.1	All equipment is to be designed to allow installation in accordance with the National Electrical Code (NEC), ANSI/NFPA 70, and when applicable, the National Electrical Safety Code, IEEE C2. Also, unless marked or otherwise identified, installation is allowed per the Standard for the Protection of Electronic Computer/Data-Processing Equipment, ANSI/NFPA 75.	EUT in compliance with requirements of IEC 60950-1. Overall acceptance shall be evaluated during national approval.	N/A
1.4.14	For Pluggable Equipment Type A, the protection in the installation is assumed to be 20A.	See above.	N/A
1.5.5	For lengths exceeding 3.05 m, external interconnecting flexible cord and cable assemblies are required to be a suitable cable type specified in the NEC. For lengths 3.05 m or less, external interconnecting flexible cord and cable assemblies that are not types specified in the NEC are required to have special construction features and identification markings.		N/A
1.7.1	Equipment for use on a.c. mains supply systems with a neutral and more than one phase conductor (e.g. 120/240 V, 3-wire) require a special marking format for electrical ratings.		N/A
2.5	Where a fuse is used to provide Class 2, Limited Power Source, or TNV current limiting, it shall not be operator-accessible unless it is not interchangeable.		N/A
2.7.1	Suitable NEC branch circuit protection rated at the maximum circuit rating is required for all standard supply outlets and receptacles (such as supplied in power distribution units) if the supply branch circuit protection is not suitable. Power distribution transformers distributing power at 100 volts or more, and rated 10 kVA or more, require special transformer overcurrent protection.		N/A
3.2	Wiring methods (terminals, leads, etc.) used for the connection of the equipment to the mains shall be in accordance with the NEC.	Class III equipment.	N/A
3.2.1	Power supply cords are required to have attachment plugs rated not less than 125 percent of the rated current of the equipment.		N/A
3.2.1.2	Equipment connected to a centralized d.c. power system, and having one pole of the DC mains input terminal connected to the main protective earthing terminal in the equipment, is required to comply with special earthing, wiring, marking and installation instruction requirements.		N/A
3.2.3	Permanent connection of equipment to the mains supply by a power supply cord is not permitted, except for certain equipment, such as ATMs.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
3.2.5	Power supply cords are required to be no longer than 4.5 m in length and minimum length shall be 1.5 m. Flexible power supply cords are required to be compatible with Article 400 of the NEC.		N/A
3.2.9	Permanently connected equipment must have a suitable wiring compartment and wire bending space.		N/A
3.3.3	Wire binding screws are not permitted to attach conductors larger than 10 AWG (5.3 mm ²).		N/A
3.3.4	Terminals for permanent wiring, including protective earthing terminals, must be suitable for U.S wire gauge sizes, rated 125 percent of the equipment rating, and be specially marked when specified (1.7.7).		N/A
3.4.2	Motor control devices are required for cord-connected equipment with a motor if the equipment is rated more than 12 A, or if the motor has a nominal voltage rating greater than 120 V, or is rated more than 1/3 hp (locked rotor current over 43 A).		N/A
3.4.8	Vertically-mounted disconnect switches and circuit breakers are required to have the "on" position indicated by the handle in the up position.		N/A
3.4.11	For computer room applications, equipment with battery systems capable of supplying 750 VA for five minutes are required to have a battery disconnect means that may be connected to the computer room remote power-off circuit.	No mains connection.	N/A
4.3.12	The maximum quantity of flammable liquid stored in equipment is required to comply with NFPA 30.		N/A
4.3.13.5	Equipment with lasers is required to meet the Code of Federal Regulations 21 CFR 1040.	Optical radiation in compliance with requirements of IEC 60825-1 (see corresponding sections of this test report). Laser Comply with FDA	P
4.7	For computer room applications, automated information storage systems with combustible media greater than 0.76 m ³ (27 cu ft) are required to have a provision for connection of either automatic sprinklers or a gaseous agent extinguishing system with an extended discharge.		N/A
4.7.3.1	For computer room applications, enclosures with combustible material measuring greater than 0.9 m ² (10 sq ft) or a single dimension greater than 1.8 m (6 ft) are required to have a flame spread rating of 50 or less. For other applications, enclosures with the same dimensions require a flame spread rating of 200 or less.		N/A
Annex H	Equipment that produces ionizing radiation must comply with Federal Regulations, 21 CFR 1020	No ionizing radiation.	N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict

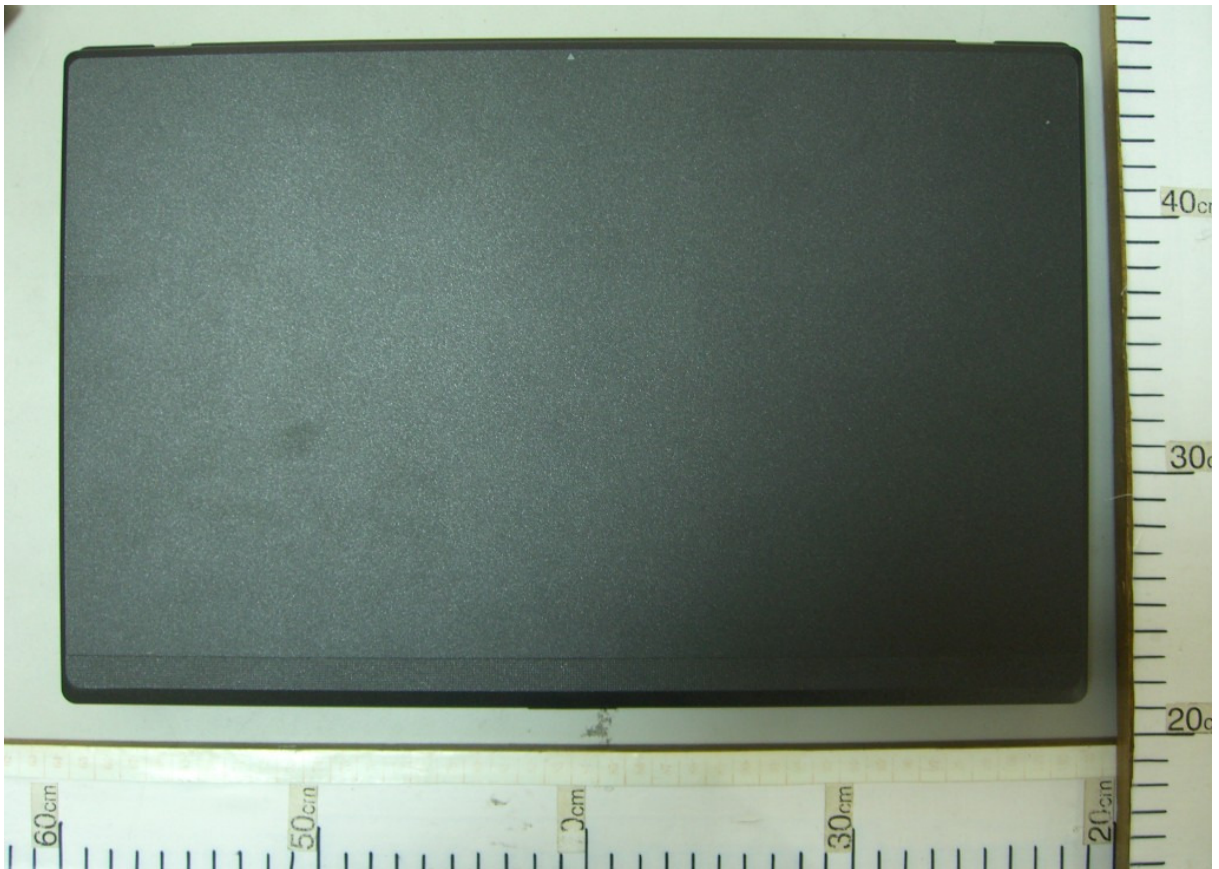
OTHER NATIONAL DIFFERENCES			
1.5.1	Some components and materials associated with the risk of fire, electric shock, or personal injury are required to have component or material ratings in accordance with the applicable national (U.S. and Canadian) component or material requirements. These components include: attachment plugs, battery packs (rechargeable type, used with transportable equipment), cathode ray tubes, circuit breakers, communication circuit accessories, connectors (used for current interruption of non-LPS circuits), cord sets and power supply cords, direct plug-in equipment, enclosures (outdoor), flexible cords and cables, fuses (branch circuit), fuseholders, ground-fault current interrupters, industrial control equipment, insulating tape, interconnecting cables, lampholders, limit controls, printed wiring, protectors for communications circuits, receptacles, solid state controls, supplementary protectors, switches (including interlock switches), thermal cutoffs, thermostats, (multi-layer) transformer winding wire, transient voltage surge suppressors, tubing, wire connectors, and wire and cables.	Components are UL approved, see component list 1.5.1.	P
1.6.1.2	A circuit for connection to the DC Mains Supply is classified as either a SELV Circuit, TNV-2 Circuit or Hazardous Voltage Circuit depending on the maximum operating voltage of the supply. This maximum operating voltage it to include consideration of the battery charging “float voltage” associated with the intended supply system, regardless of the marked power rating of the equipment.		N/A
2.3.1	For TNV-2 and TNV-3 circuits with other than ringing signals and with voltages exceeding 42.4 V _{peak} or 60 V _{d.c.} , the max. acceptable current through a 2000 ohm resistor (or greater) connected across the voltage source with other loads disconnected is 7.1 mA peak or 30 mA d.c. under normal operating conditions.	TNV-3 circuits without other than ring signals.	N/A
2.3.2.1	In the event of a single fault between TNV and SELV circuits, the limits of 2.2.3 apply to SELV Circuits and accessible conductive parts.	Complied.	P
2.6.3.4	Protective bonding conductors of non-standard protective bonding constructions (e.g., printed circuit traces) may be subjected to the additional limited short circuit test conditions specified.		N/A
4.2.8.1	Enclosures around CRTs with a face diameter of 160 mm or more are required to reduce the risk of injury due to the implosion of the CRT.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
4.2.11	For equipment intended for mounting on racks and provided with slide/rails allowing the equipment to slide away from the rack for installation, service and maintenance, additional construction, performance and marking requirements are applicable to determine the adequacy of the slide/rails.		N/A
4.3.2	Equipment with handles is required to comply with special loading tests.		N/A
5.1.8.3	Equipment intended to receive telecommunication ringing signals is required to comply with a special touch current measurement tests.	Considered. For Motorola / ML3054: 4). To SELV=0.01mA 5). To plastic enclosure with foil=0.01mA 6). To Keyboard=0.01mA For Agere / D40 (D40 AM5): 4). To SELV=0.1mA 5). To plastic enclosure with foil=0.01mA 6). To Keyboard=0.01mA	P
5.3.7	Internal (e.g., card cage) SELV circuit connectors and printed wiring board connectors that are accessible to the operator and that deliver power are to be overloaded. During abnormal operating testing, if a circuit is interrupted by the opening of a component, the test shall be repeated twice (three tests total) using new components as necessary.		N/A
6.4	Equipment intended for connection to telecommunication network outside plant cable is required to be protected against overvoltage from power line crosses in accordance with 6.4 and Annex NAC.	Minimum No.26 AWG telecommunication line cord used and overvoltage test were performed on modem module (Tip-Ring) and on unit itself under different test conditions according to sub-clause 6.4 and Annex NAC.	P
M.2	Continuous ringing signals up to 16 mA only are permitted if the equipment is subjected to special installation and performance restrictions.		N/A
Annex NAD	Equipment connected to a telecommunication and cable distribution networks and supplied with an earphone intended to be held against, or in the ear is required to comply with special acoustic pressure requirements.		N/A

National Differences			
Clause	Requirement – Test	Result – Remark	Verdict
Annex NAF	Document (paper) shredders likely to be used in a home or home office (Pluggable Equipment Type A plug configuration) are required to comply with additional requirements, including markings/instructions, protection against inadvertent reactivation of a safety interlock, disconnection from the mains supply (via provision of an isolating switch), and protection against operator access (accessibility determined via new accessibility probe & probe/wedge).		N/A

Product: NOTEBOOK COMPUTER

Type Designation: T510X, T511X (X can be 0-9 or blank)



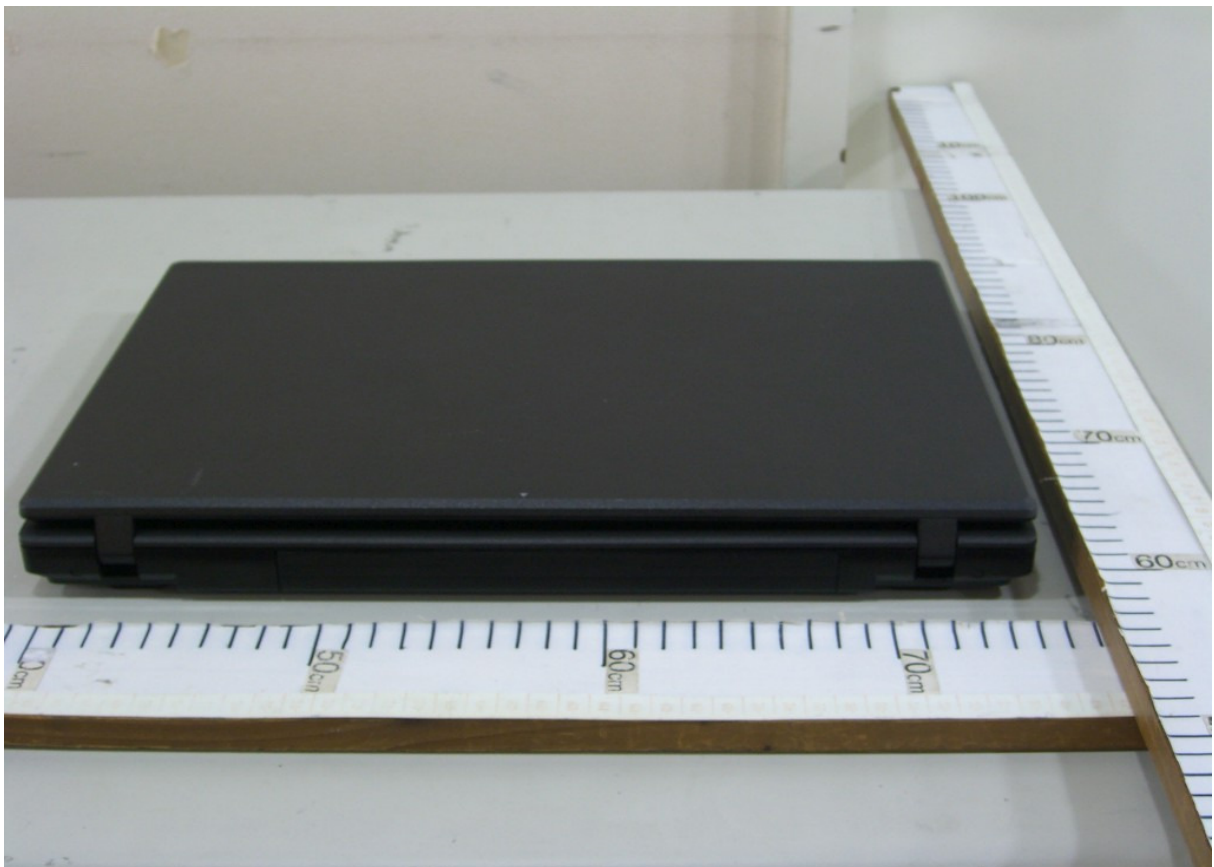
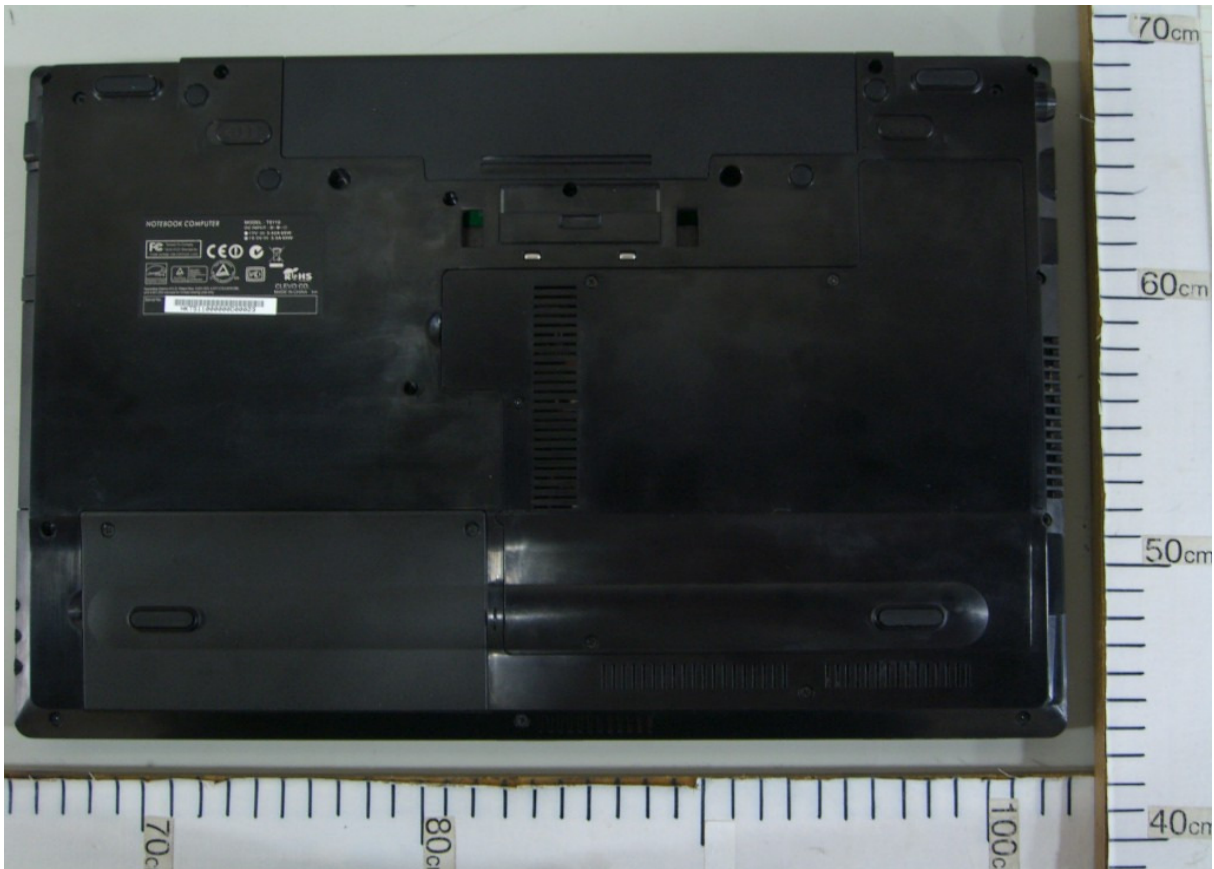
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Type Designation: T510X, T511X (X can be 0-9 or blank)



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Type Designation: T510X, T511X (X can be 0-9 or blank)



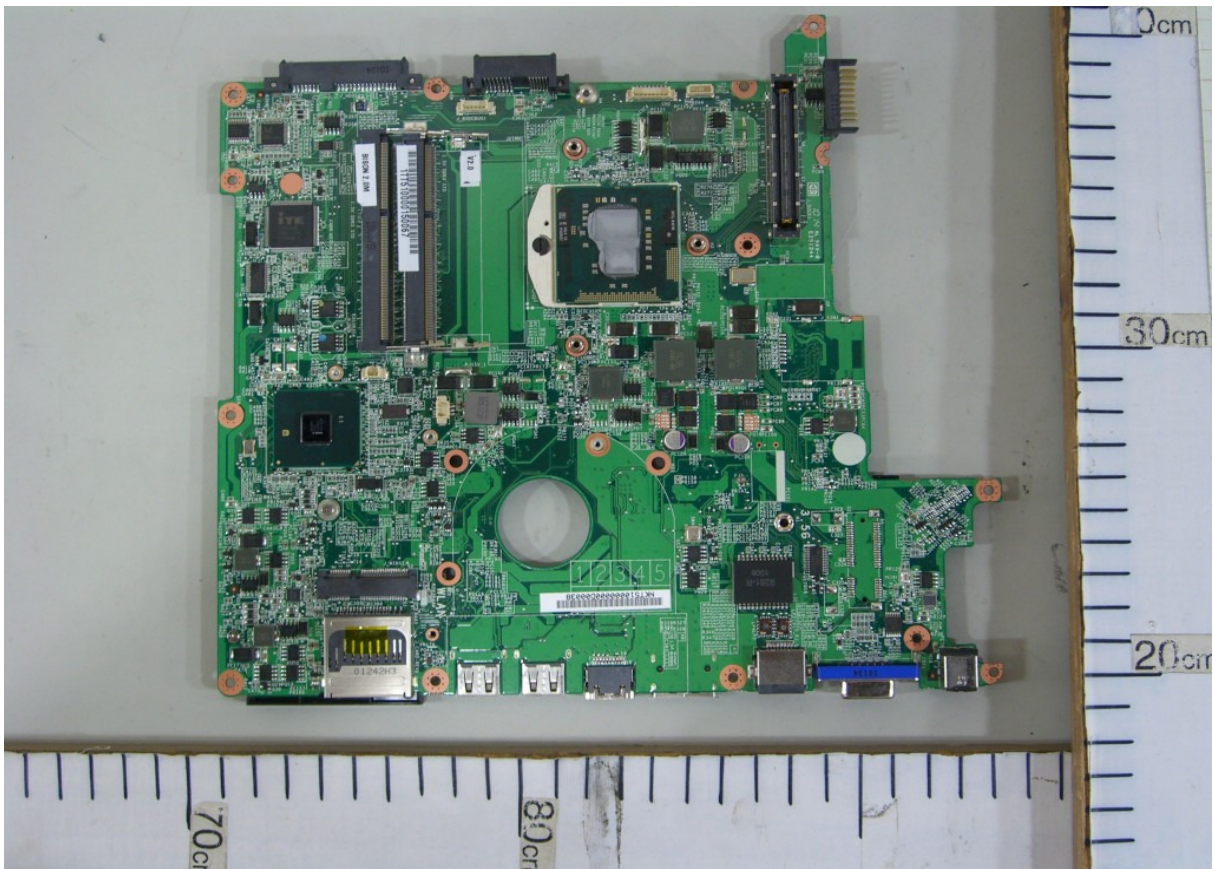
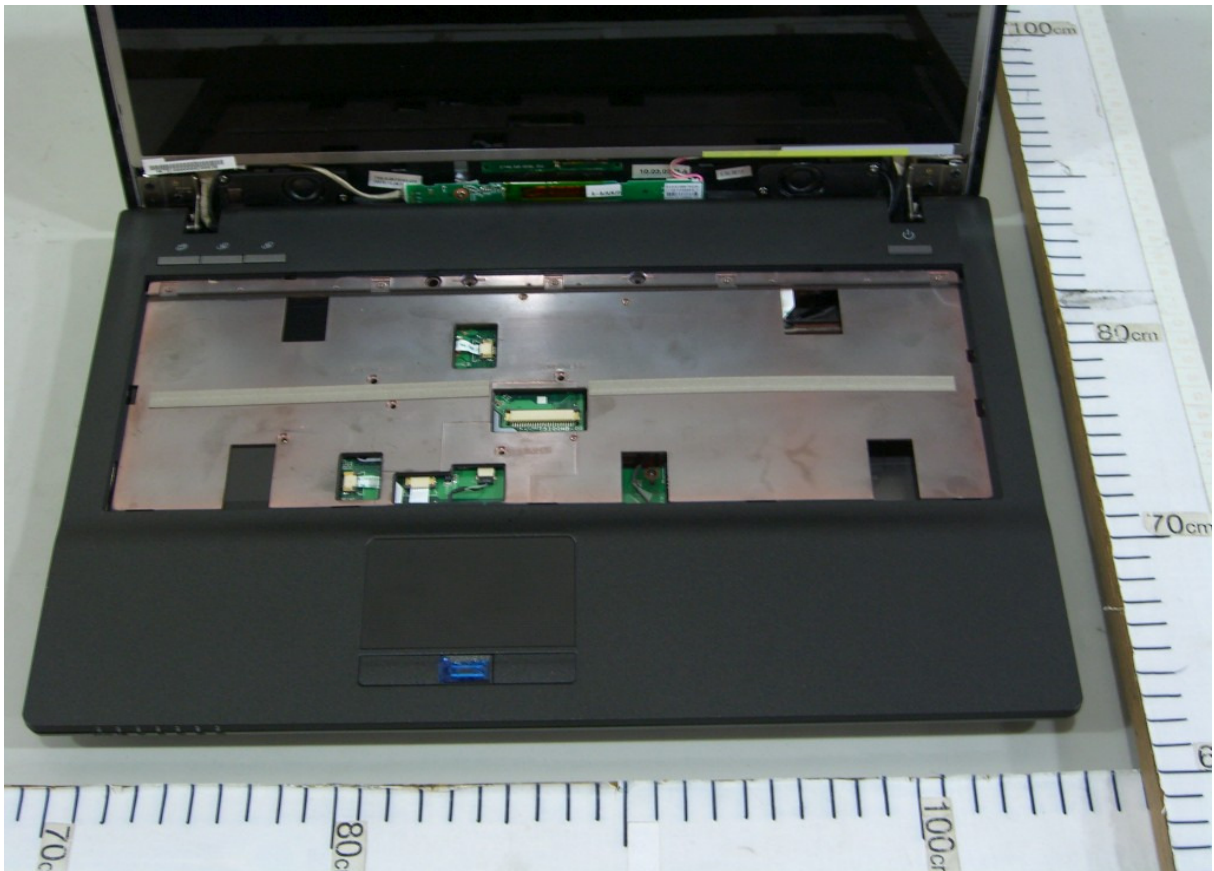
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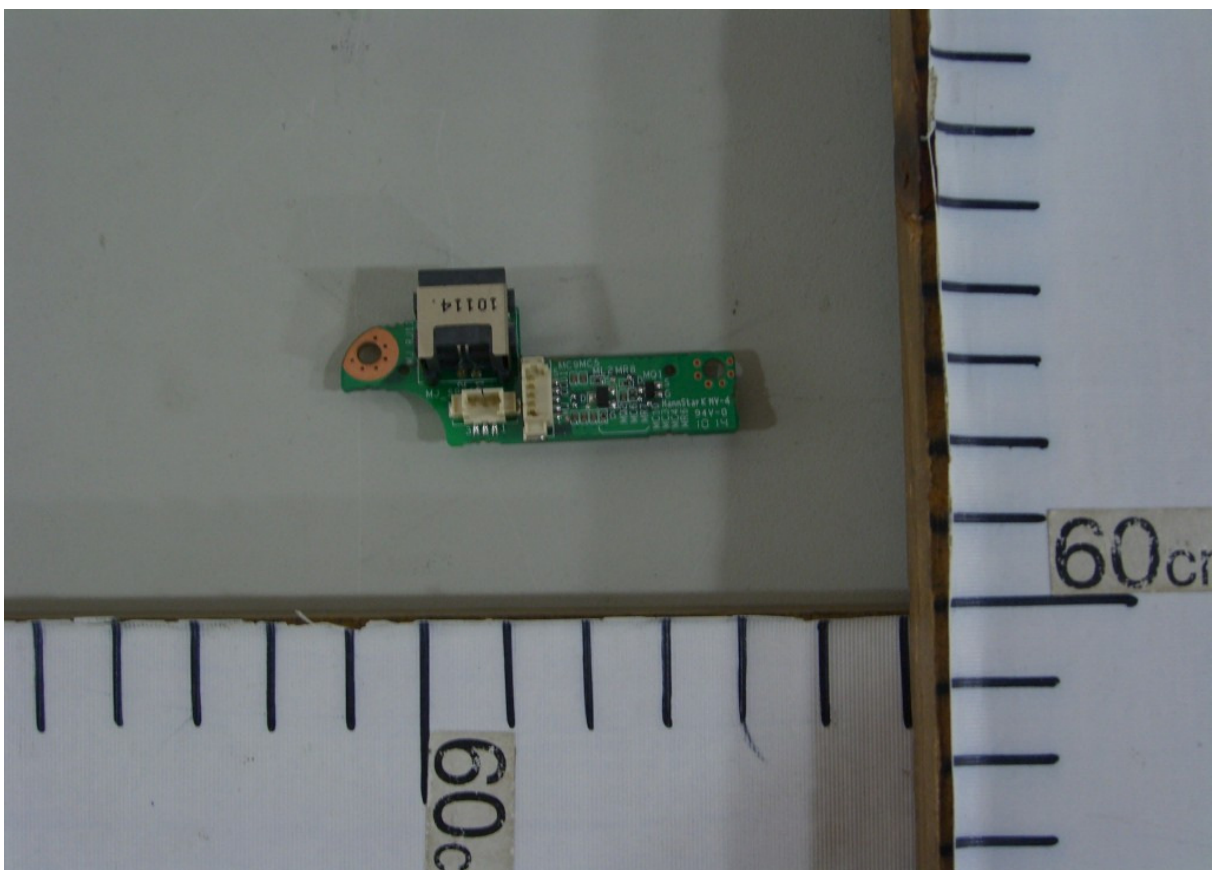
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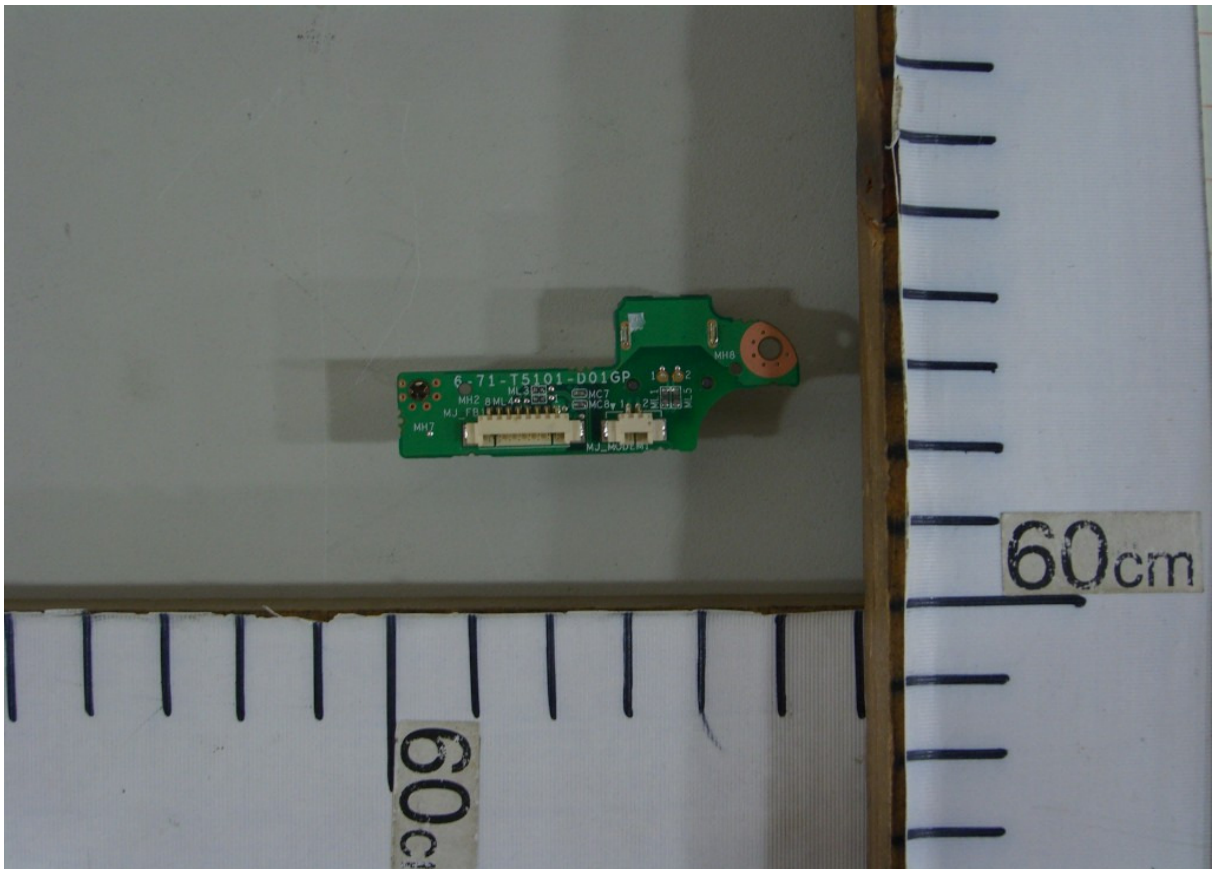
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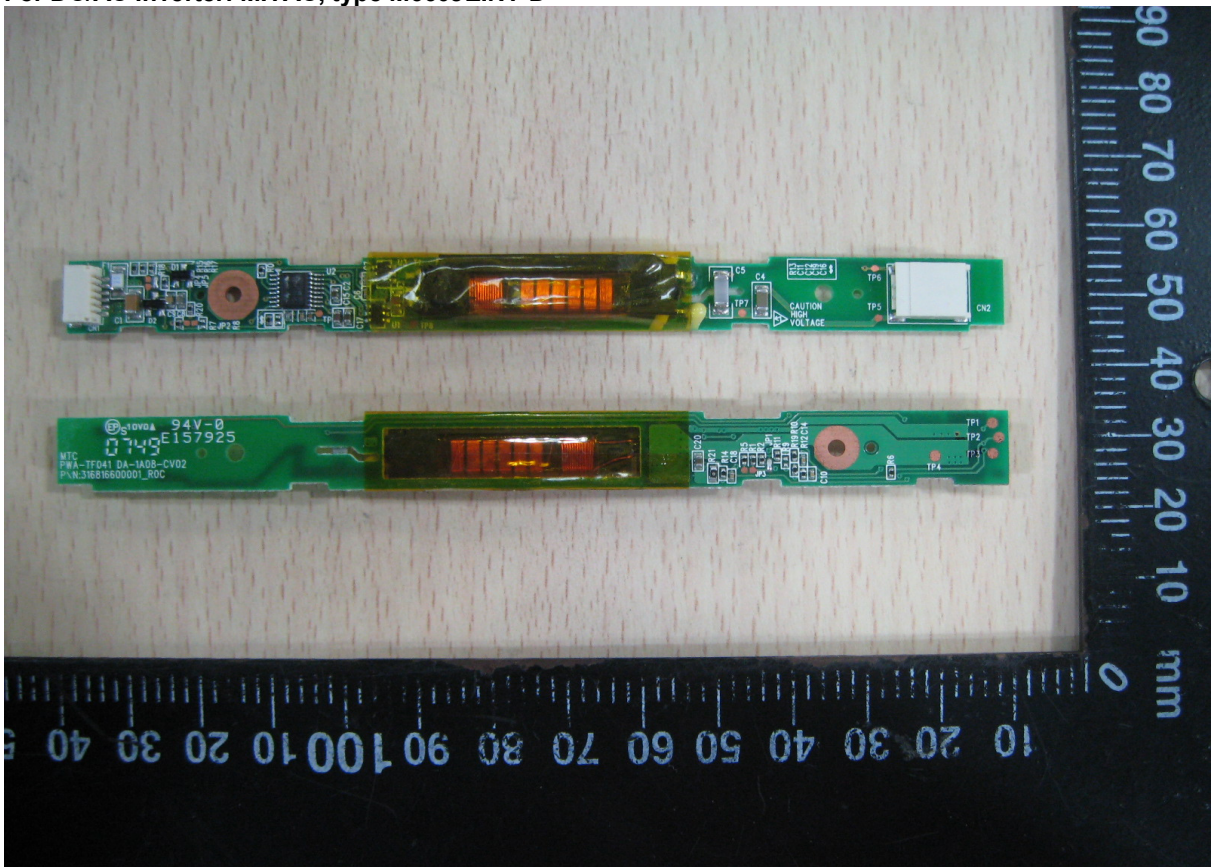


Product: NOTEBOOK COMPUTER

Type Designation: T510X, T511X (X can be 0-9 or blank)



For DC/AC Inverter: MITAC, type M660JEINT-D



Product: NOTEBOOK COMPUTER

Type Designation: T510X, T511X (X can be 0-9 or blank)

For DC/AC Inverter: Taiwan Sumida, type M660SRUINT-E

